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Dr. Howard O. Smith

Dr. Howard Owen Smith, Marlin, became the ninety-second President of the Texas Medical Association last month, succeeding Dr. Denton Kerr, Houston.

Dr. Smith was born in Hamilton, June 14, 1898, son of Dr. Howard O. and Clara Elizabeth (Eidson) Smith. He received his preliminary education in Hamilton. While attending Baylor University, Waco, he received a letter for his work on *The Lariat* staff, as well as letters in baseball and tennis. He completed the studies necessary for a bachelor of science degree in medicine from the University of Texas, Austin, in 1917.

Following his service in the Student Army Training Corps and field artillery officers training school during World War I, Dr. Smith entered the University of Texas Medical Branch, Galveston, from which he received his doctor of medicine degree on May 31, 1922. During his senior year at the Medical Branch, he was an extern at John Sealy Hospital, Galveston. He interned at City Hospital, Cleveland, Ohio, and served a preceptorship in surgery under Dr. R. J. Alexander, Waco, from 1924 to 1929. He took postgraduate work in surgical operative technique in Chicago in 1924 and at the New York Polyclinic in 1925, and served as honorary instructor in surgery at the University of Michigan, Ann Arbor, in 1934 and 1938.

Dr. Smith has been a general surgeon for the Torbett Clinic and Hospital, Marlin, since 1924, with the exception of the years 1942-1946 when he was on duty with the United States Navy, and chief surgeon and superintendent since 1949. He also has served as chief consulting surgeon for the Veterans Administration Hospital, Marlin, since 1950,

and as railway surgeon for both the Missouri Pacific and Southern Pacific Railroads.

During World War II, Dr. Smith served with the United States Naval Reserve Medical Corps as surgeon aboard hospital ships "Relief" and "Solace" in the Pacific area, and was awarded five battle stars and a personal commendation medal and ribbon from Admiral Chester W. Nimitz. He was discharged with the rank of commander.

Dr. Smith is a member of the Twelfth District Medical Society, of which he is past president, and the Texas and American Medical Associations through Falls County Medical Society, of which he has been secretary, president, and delegate. He served as secretary of the Texas Medical Association's Section on Surgery in 1935 and as Councilor of the Twelfth District from 1955 to 1957. He is a fellow of the American College of Surgeons and a diplomate of the American Board of Surgery. He is a member and past president of the Texas Association of Obstetricians and Gynecologists, as well as being a member of the Central Association of Obstetricians and Gynecologists, Private Clinics and Hospitals Association of Texas, Southern Medical Association, Texas Surgical Society, and International Surgical Society and one of the founders of the Southwestern Surgical Association. He is a past president of the Texas State Board of Medical Examiners, and serves as an examiner in surgery for that group at present. He is a director of the Texas Division, American Cancer Society. He is author of numerous scientific papers.

Dr. Smith is a member of Phi Kappa Psi social fraternity, Alpha Mu Pi Omega medical fraternity, and Alpha Omega Alpha honorary medical fraternity. While at the University of Texas Medical Branch, he was elected as the first president of the Students Self Government Association. He also is a past president of the University of Texas Medical Branch Alumni Association.

At the annual meeting of the Disabled American Veterans of Texas in 1957, Dr. Smith was awarded the first Andy Anderson Trophy for outstanding service to disabled Texas veterans, and was awarded a plaque by the national organization in 1955.

He has been very active in civic groups on local, regional, and state levels. He is a director of the Falconer Civic Center, Marlin, past president of the Marlin Rotary and Kiwanis Clubs, past director of the Marlin Chamber of Commerce and Agriculture, past director of the Heart of Texas Boy Scout Council, past District 587 Governor of Rotary International, and a former member of the Texas State Democratic Executive Committee. He is a former senior warden and a lay reader in the St. John's Episcopal Church of Marlin. He is a Mason, a member of the Shrine, Eastern Star, and Knights of Pythias.

When not in the office or on one of many trips in connection with his professional and civic activities, Dr. Smith might be found hunting or participating in another of his hobbies, photography.

Dr. Smith and Miss Mary Ashley Lee were married in Galveston on November 18, 1926. The first Mrs. Smith died in 1934. Dr. Smith and Mrs. Ann Bauer Welch were married on February 16, 1938, in Mexia. He has two sons, Dr. Howard Lee Smith, surgeon at the Torbett Clinic in Marlin, and Jack Dixon Welch, an attorney and state representative from Falls and Limestone Counties; two sisters, Mrs. Ray D. Jones, Hempstead, and Mrs. John Harvey Griffis, Waco; and one brother, Henry Grady Buchanan, Jr., Houston.

Dr. Smith's theme for the year is "A Well Informed Profession." He will place particular emphasis on voluntary insurance, striving for 100 per cent coverage of Texas families with some type of voluntary health, accident, and loss of time insurance.

Members of the Association can be assured that the leadership of Texas medicine is in capable hands with Dr. Howard Smith as their President.

Session Draws Record Crowd

All attendance records were broken at the recent annual session of the Texas Medical Association as the registration rose to 3,426, with 1,920 members present. The Houston meeting was agreed to be a great success with its high caliber scientific program. A summary of the session's activities is printed in the organizational section of this issue and transactions will be published in June.

At meetings of the House of Delegates, the group took a stand to discontinue the Association's contract with Medicare, to reaffirm its preference of San Antonio as the best site for a new medical school, and to approve an overhauling of the 10-year-old Constitution and By-Laws currently in effect. Dr. William P. Ball of Cleburne, now in his fifty-eighth year of medical practice, was elected General Practitioner of the Year.

The condensed 4 day program was introduced this year and seemingly worked satisfactorily with Dr. Denton Kerr skillfully presiding over the session. Houston doctors and their wives acted as affable hosts to doctors who came from all parts of Texas and the nation. Plans for next year's session, which will be held in San Antonio, are under way with the hope of breaking even more records.

Texas Medical Association Withdraws from Medicare

On April 30, participation of the Texas Medical Association in Medicare was terminated. Earlier in the month, the House of Delegates voted not to sign a new contract with the federal government to act as contracting agent in the program of medical care for dependents of those in military service. Legislation creating the Medicare program was passed by Congress in 1956. The Association had participated since January 1, 1957.

The House of Delegates, taking its action at the Houston annual session, reiterated its disapproval of federal control of medical service to civilians and stated that Medicare is a potent opening wedge for the complete nationalization of the American system of medical practice which would lower the present high quality of medical care. The House requested the Association's Council on Medical Jurisprudence and Texas delegates to the American Medical Association to initiate steps to modify or repeal Public Law 569 (the Medicare law) so as to provide medical care for military dependents through programs underwritten by voluntary prepayment plans or by pay increases which would be adequate to enable military personnel to purchase voluntary prepaid health insurance.

Participation in the Medicare program was considered first by the Texas Medical Association House of Delegates in a called meeting in September, 1956. The House at that time voted to enter into a 1 year contract under the program, designated the Council on Medical Economics to prepare a schedule of fees for the purpose, and requested Blue Shield of Texas to serve as fiscal administrator of the program for the Association. Agreement with the Office of Dependents Medical Care, Department of the Army, was reached after extensive negotiations, and the program was put into effect in Texas on January 1, 1957. At the 1957 annual session, the House decided to continue participation until the time of the 1958 annual session, meanwhile requesting the Board of Trustees to negotiate a new contract without signing it. Representatives of the Association had negotiated the proposed new contract shortly before the April meeting in Houston so that the program might be continued without lapse should the House wish to approve further participation. With the vote to withdraw from the program, contractual responsibility ceased the last day of April.

More than 56,000 Medicare claims were processed by the Association's fiscal agent during the period the Texas Medical Association participated. An estimated 3,200 Texas doctors

filed claims, receiving more than $4,260,000 in fees for professional services. Only California topped Texas in the volume of professional services rendered by physicians to dependents of military personnel.

Termination of the Medicare contract by the Texas Medical Association does not mean that wives and children of men in military service will be unable to obtain medical care. Not only may they be served by military installations or by civilians receiving their fees for service through direct payment or through health insurance, but also any individual physician who wishes may continue to give service under the Medicare program. Instead of negotiating through the Texas Medical Association, the physician will deal directly with the federal government. Instead of filing his claims for payment through Blue Shield as heretofore, he will address claims to Mutual of Omaha (P. O. Box 1298, Omaha, Neb.), which has been designated by the Army to act as fiscal agent to reimburse physicians for services rendered. Mutual of Omaha has been performing this service already for hospital claims in Texas under provisions of the Medicare program and also for physicians' claims in certain other states.

From the beginning, Texas doctors had expressed opposition to the principle of Medicare. Those favoring participation in the program pointed out, however, that the law exists and that the medical profession should retain as much control as possible over the execution of this or any other law involving medical care. Opponents urged that participation weakens the moral stand of the medical profession in reference to socialistic legislation and gives subtle approval to the principle of government control of medicine and government setting of fees.

Stormy as debate on the Medicare proposal has been in each session of the Texas House of Delegates since the issue arose, there seemed to be unanimity in the 1958 House (1) that adequate medical care should be available to the families of servicemen with free choice of physician, (2) that the principle of government interference is to be censured, and (3) that the Board of Trustees, the Committee on Medicare, and Blue Shield of Texas deserve commendation for their service on behalf of the Association.

Thompson Scholarship Helps Texans

The dream of the late philanthropist, Dr. Sam E. Thompson of Kerrville, of helping young Texans, who are undertaking a medical education but who are unable to finance it, finally will become reality beginning July 1. Approximately $40,000 will be made available at that time for student loans through the S. E. Thompson Scholarship Fund.

The half million dollar fund, together with a $50,000 grant to the Texas Memorial Medical Library Association, was made available in bequests of Dr. Thompson, who before his death, was the recipient of the two highest honors in Texas medicine, president of the Texas Medical Association and chairman of its Board of Trustees. Rules and regulations for the fund have just been set up by the Board of Trustees of the Texas Medical Association and Dr. John B. Truslow, executive director of the University of Texas Medical Branch at Galveston, named by Dr. Thompson as trustees of the fund.

Applicants must be citizens of Texas who have completed their freshman year of medical study, or in cases of unusual merit, first year students will be considered also. Limit on loans is $3,000, with only $500 to be borrowed at any one time and not more than $1,000 borrowed during any one school year. Interest rate will be 4 per cent per annum. The selection of recipients will be made by the trustees of the fund after considering recommendations of a Student Loan Committee at Galveston.

Applications may be obtained from the Executive Secretary of the Texas Medical Association at Austin or from the Registrar, University of Texas Medical Branch at Galveston.

Dr. Thompson's own life story, one of hardship in the beginning and success in the end, should serve as a challenge to these very people whom he is attempting to help. And his generosity to Texas medical education should serve as a challenge to other members of the medical profession—for today's well-trained medical student will make tomorrow's good doctor.

Baylor Presents Symposium

Thanks go to the Baylor University College of Medicine for its contribution of the scientific section of the *Journal* this month and to Dr. Russell J. Blattner, guest editor for the symposium, who acted as coordinator for his colleagues.

The symposium, entitled "Studies in Pediatrics," is the second to be submitted by the Baylor medical school and was prepared by faculty members in the Department of Pediatrics. The first series of articles presented by the school appeared in the May, 1956, *Journal.*

Patient Care— A Collective Effort

Patient care has become a multifaceted, complicated problem, combining the skill of many persons to achieve the desired results. It is a logical conclusion that each of these phases of patient management will become more complex, necessitating properly trained personnel. An effective liaison between the various groups to develop a well coordinated program is a prime requisite. If all persons or associations responsible for some aspect of patient care will combine their efforts to enhance the efficiency of each component group, medical therapy will improve, friction should diminish, and the welfare of the patient will become paramount.

The Texas Commission on Patient Care and each of the paramedical associations have been working together to accomplish these worthy ideals. The allied organizations have discussed their purposes, programs, and problems with the commission. These associations are doing fine work and have contributed considerably to the welfare of the patient. To acquaint physicians and hospital officials with their program, several organizations have prepared summaries of their activities, objectives, aspirations, and requirements which are combined in one article in another section of this *Journal.* We should peruse this article in an interested, constructive manner, for these dedicated organizations are worthy of our strong support and encouragement. Without them, the medical profession would be seriously handicapped.

Properly directed and continued coordination will increase the effectiveness of each association. These collective efforts should greatly improve the welfare of the patient.

—G. V. BRINDLEY, JR., M.D., Temple.

PUBLIC RELATIONS CONFERENCE ORIENTATION PROGRAM
September 6
Texas Medical Association Headquarters
Austin

EXECUTIVE COUNCIL MEETING
September 7

WOMAN'S AUXILIARY SCHOOL OF INSTRUCTION
September 4, 5

President's Page

HOUR FOR DEDICATION

It is my earnest desire that we select a continuing theme for this year of a better informed profession. This by no means indicates that our profession is not thoroughly informed on subjects pertaining to medicine or surgery, although we must continue to take advantage of refresher courses, the services of our Texas Medical Association Memorial Library, and the other privileges which, as the newer members learn in the orientation programs, one who belongs to the Texas Medical Association has at his disposal to keep abreast of medical science and art.

As we strive constantly to improve our patients' care—which is, after all, our prime objective—we must be interested in and informed about the problems which face a young man planning his professional future. The question may come to him, why should he not enter some other profession, or why should he be interested in success if he has forever an all-powerful government competing with him in every phase of activity and sucking up his income in a crushing system of taxation?

We are not pessimists; we are not headed for destruction. With clear thinking and courage on the part of her citizens, our nation can stand forever. Our congressmen can change the situation, political and economic, for better or worse if we simply inform them as to how we feel and believe. By so doing, we can help maintain a milieu in which not only those of us now in practice can give the best possible care to our patients but also those ready to enter upon careers will find the hope and challenge to give their lives to medicine.

In addition, we need to be sure that our patients and friends are informed as to how to secure better medical attention by being prepared with health insurance for necessary medical expenses which may arise. The vital role of voluntary health insurance in providing for the cost of medical care has been mentioned time and again, but our

patients, friends, and even our doctors are not always thoroughly informed concerning insurance.

Our aim this year should be to assist nonprofit and commercial carriers to extend voluntary health insurance to larger numbers of residents of our state. We must educate all doctors in the value of such insurance, study the policies, and know their contents.

It is not possible for the public to carry total coverage health insurance. This would be too expensive. But the people should know on what basis an insurance policy can cover them—for what portion of their illnesses they can be protected. The Blue Cross and Blue Shield and commercial insurance companies will help educate people concerning their policies. Reliable companies are always willing to do more than their share in an educational program and will spend much time and money in such an effort.

In this educational program we must start at the county level—the so-called grass roots area—in order for the people to be thoroughly informed. Most are ignorant of what insurance really does and must be educated on its possibilities, its realities, and its value when purchased and used properly.

These are simple things, but they are sure to help us. Even though we feel that our profession is giving the people of this country the finest medical care in the world, let us lend ourselves in every way possible to the improvement of patient care. Let us improve ourselves. Let us encourage young people to follow our profession by earning approval of it, by supporting the American Medical Education Foundation, and by retaining the system of practice that will appeal to ambitious and dedicated young people. Let us seek to make truly effective use of voluntary health insurance.

In all that we do, we must stand up for what is the right, and we must not remain silent.

Howard O. Smith M.D.

ORIGINAL ARTICLES

Studies in Pediatrics

A Symposium from Baylor University College of Medicine

Guest Editor:

RUSSELL J. BLATTNER, M.D.

Houston, Texas

Certain Effects of Hospitalization In Childhood

FRED M. TAYLOR, M.D.

Houston, Texas

ATTEMPTS to reduce the incredibly high mortality rates in hospitalized infants nearly 100 years ago led to the adoption of unusually strict regulations in the hospital care of infants and children. Some of these policies exist even today. Rigid and restricting methods in patient care, an outgrowth of extreme inadequacy in proper hospital facilities, often exclude entirely a child's parents from his care and from the hospital and, even despite gravity of an illness, may permit a minimum of personal attention to a young patient. Carrying out such a program of impersonal care for the hospitalized infant and child may have appeared justified by the subsequent decline in mortality rates and reduction in in-hospital cross-infections. More than likely, however, substantial reductions in rates of hospital death and infection stem principally from the series of remarkable medical achievements (pasteurization, nutrition, immunization, sanitation, chemotherapy) and striking increases in available medical services.

The employment of undue rigidity in hospital care for children provides the groundwork for the development of certain clear-cut emotional disturbances in the infant and child and for clinical observations which suggest that hospitalization itself creates in a growing person a psychologically trying experience. In fact, before effects of hospitalization were clearly recognized, enlightened nurses, understanding some of the ordinary emotional needs of normal human subjects, sought to minimize a child's undue hospital effects ("hospitalism") by acting as "mother substitutes" and obtaining volunteers to supplement general nursing care. Individual consideration such as this serves to improve in a positive way the quality of a child's hospital stay, but in too many instances traditional methods of impersonal hospital care still account for a significant number of undesirable and unnecessary behavioral changes (table 1).

Dr. Fred M. Taylor, associate professor of pediatrics at Baylor University College of Medicine and director of the Junior League Children's Diagnostic Clinic, the Texas Children's Hospital, presented this paper to the Beaumont-Port Arthur Pediatric Society, June 26, 1957.

A rigid and impersonal hospital program may create emotional disturbances in children. Proper preparation of children for hospitalization, awareness of normal fears and reactions to hospitalization and medical procedures, and provision for individualization and personalization may humanizae a hospital experience for a pediatric patient and his parents and lessen undue emotional trauma.

TABLE 1.—*Significant Changes in Behavior After Hospitalization.*

Undue dependency (possessive clinging to parents and adults).
Regression (wetting and soiling, bottle feeding, thumb sucking).
Sleep disturbances (difficulty going to sleep, wakefulness, teeth grinding, night terrors).
Failure to thrive (anorexia, weight loss, irritability, diarrhea).
Reaction to fear and anxiety (apathy and undue interest in toys; unresponsiveness and failure to recognize parents; destructiveness, jealousy, and temper outbursts; defiance, hostility, and retaliation).

The purpose of this paper is to point out methods in the Texas Children's Hospital for humanizing a hospital experience for the pediatric subject and his parents and for minimizing and lessening undue psychological trauma.

MODIFYING HOSPITAL ENVIRONMENT

To modify a hospital environment for children it is necessary to realize that a hospital is not solely for the purpose of treating a disease, but instead for treating a child who happens to have a disease. Since a sick child normally and instinctively would turn to those things that in health provide sources for normal security and assistance—parents, favorite toys, methods for ordinary expressions of fear, anxiety, and affection—it appears that a child's hospital environment should provide for these purposes (table 2), thereby enabling his experience in a hospital to be a constructive and helpful one.

TABLE 2.—*Areas for Modifying a Hospital Environment.*

Role of parents (rooming-in or ample visiting, avoiding separation from parents).
Personal items (favorite clothing, toys, pillow, blanket).
Proper play area and entertainment cart.
Provision for school work and special events (birthday, holiday).
Awareness of usual hospital fears (separation from parents, fear of pain and death).

To separate a child of any age from his parents, especially during illness and hospitalization for surgery, accounts singularly for unnecessary emotional changes. In this respect the practice of rooming-in one of the parents (usually the mother) in Texas Children's Hospital is a satisfactory and rewarding method of providing total consideration for a hospitalized child. It is an important consideration also for the parent, who is provided with the opportunity of carrying out a responsible and intimate role toward improving the emotional and physical health of the child. For this reason, mothers are encouraged to feed the child, bathe and dress the child, and assist the nurse in administering certain treatments. Parents experience a satisfying accomplishment in contributing successfully to their child's recovery and indeed can be indispensable assets working together with the physician and professional staff. Home situations which may serve to prevent the mother from remaining in the hospital most of the time are usually solved by having a relative or neighbor assume a certain share in caring for the mother's other obligations.

With respect to items of personal interest to a child, his parents are encouraged to bring the child's favorite toy, blanket, pillow, and so forth. Further, a child is usually happier and more secure if he is dressed in his own clothing and, when his illness permits, is given the opportunity to visit and play with other children. Appropriate individual and group play in central play areas, toys, television, movies, and other entertainment are constructive opportunities in the hospital which enable a child to work out and to express his reactions to hospitalization. Members of the Women's Auxiliary of the hospital make daily rounds with their entertainment cart, which provides books, picture books, work materials (crayons, modeling clay, finger paint, and so forth) for the children, especially the room-bound child. School work is provided for the older child who is unduly fearful of falling too far behind in his school work, and special events such as birthdays and holidays are given their appropriate share of individual attention.

AWARENESS OF NORMAL FEARS

It is exceedingly difficult for a hospital staff on short acquaintance to understand the behavior of each patient, to learn the experiences of the parents, and to appraise accurately the parents' concept of disease and its possible significance. In this matter, the professional staff's understanding of a child may oftentimes be unduly superficial. In this respect, however, nothing replaces constructive understanding of a child on his own age level and a working knowledge of a child's usual fears and reactions to illnesses and hospitalization procedures (table 3).

TABLE 3.—*Usual Fears in Hospitalization.*

Separation from parents (fear parent will not return, separation is punishment, parent no longer loves him).
Body pain and injury (procedures, injections, anesthesia, surgery; fear of being put to sleep, being gassed, losing any body part).
Nature of illness (harm to body from sickness, guilt and responsibility for illness, being different from others, fear of death).
Loss of school work (fear of failure, fear of inability to catch up).

Children differ greatly in the way in which they react to hospital experiences, and a great deal depends on the quality of skill with which they have been handled. Obviously too, much depends on a child's age, his innate temperament, and the quality of previous parent relationship. Nevertheless, a child is a child (not a little man), and he behaves in a way appropriate for his age, and if he is sick, he is apt to behave at an even younger level. Therefore, a child's fears should be neither ridiculed nor denied, and similarly a child (as in his normal home environment) should be permitted to express his feelings about any painful or frightening experience.

In our experience, clearly defined efforts minimize

a child's undue self-concern. He invariably does better when he understands what is going to happen. If he has been factually and wisely prepared for hospitalization, he will forget a disagreeable hospital experience quickly and is none the worse for his experience. On the other hand, if he is brought to the hospital through some ruse and subjected to painful procedures, he simply resents having been tricked and lied to, and he may well be suspicious and hostile towards the staff, feeling a keen desire to retaliate towards his parents or a sibling. No child should be tricked by an untruth into accepting hospitalization. Thus a child trusts his parents, physician, and nurse who treat and support him fairly, and he usually will not be overwhelmed by his own fears. For these reasons too, all diagnostic and treatment procedures (blood studies, injections, intravenous therapy, bone marrow aspirations, anesthesia, surgery) are explained simply and carefully to the parents, and in turn simply and frankly to the child.

It is of interest that it is not uncommon to see the adult professional staff being irritated and antagonized by an unhappy, loud, or assaultive child (usually called "spoiled") in the hospital, but offering a great deal of attention to a pleasant, happy child. Paradoxically too, the child who is calm and passive may not be "good" and well-adjusted but equally as frightened and anxious as the belligerent, destructive child who refuses to cooperate; both require necessary uncriticalness, friendliness, and proper reassurance. The quiet child who is "good" because he is frightened may cry and be "loud and bad" when his parents are near, only because he is sufficiently relaxed and reassured by their presence.

Making a child aware of his fears by mentioning and discussing his hospital fears is a successful and effective method of providing him with reassurance. It is exceedingly difficult, on the other hand, for a child to accept reassurance from a doctor and a nurse if they are not aware of what the child really fears.

COMMENT

One of the most effective means for supporting a child in a difficult hospital situation and minimizing his psychological trauma is to provide either rooming-in or exceedingly liberal visiting hours for parents. Comments that "parents do more harm than good," "parents interfere with proper treatment," and the like usually reflect improper concepts of child (and adult) behavior and a person's own insecurity with respect to their management.

Indeed, the successful management of a child and his illness requires, in most instances, the active participation and cooperation of his parents. In fact, the parent who does not help in some way when given the opportunity frequently needs help too. In this respect, parents who tend to "act up" usually do so because they are extremely concerned about the outcome of their child's illness or because they feel they somehow contributed to their child's sickness. An uncooperative, angry, confused parent may only be reacting to his own feeling of fear, anxiousness, or guilt. A physician looking for these signs in parents of his patients will permit them to be discussed constructively by the parent. If the physician succeeds, improved parent behavior results in greater opportunity for successful handling of the child's illness and his hospital experiences.

SUMMARY

Proper preparation of children for hospitalization; awareness of normal childhood fears and reactions to hospitalization, diagnostic tests, and treatments; and provision of individual consideration (rooming-in of parents, and so forth) for the child serve to humanize a hospital experience for the pediatric subject and his parents and to lessen undue emotional trauma.

♦ Dr. Taylor, Department of Pediatrics, Baylor University College of Medicine, Houston.

Management Of Allergy In Childhood

Basic Principles

JOHN P. McGOVERN, M.D.

Houston, Texas

THE successful management of the allergic diatheses either in children or adults rests upon the understanding of certain basic fundamental concepts. This paper deals with an outline of these principles which, for the most part, are based upon data gained from both immunologic and controlled clinical studies as well as practical experience in the diagnosis and treatment of atopic children. It is not the purpose to review or enlarge upon the immunologic basis of the atopic state. This may be found in monographs and

books on the subjects of immunology and allergy.[2,7,8] Suffice to say that the atopic person is one who is capable of making sensitizing antibodies (reagins), that these substances can become tissue fixed, and that on exposure to the complementary antigen (allergen) the syndromes of allergy may be called forth. That these reagins are true antibodies in the classical sense may be argued. The serum of atopic persons, allergic to a given allergen, will not precipitate, agglutinate, or react to complement fixation of the homologous antigen as might be expected in a classical antigen-antibody system, such as with typhoid or pertussis. The presence of the reagins may be demonstrated, however, by the passive transfer method of

Dr. John P. McGovern, who specializes in allergy, is clinical associate professor at Baylor University College of Medicine and at the University of Texas Postgraduate School of Medicine, Houston.

The basis of clinical allergy rests on two primary theses: the concept of "reaction to injury" (disease processes as reaction patterns called forth from the body in response to trauma or injury) and the "threshold" concept (resistance level at which injury is sufficient to precipitate allergic disease). In all forms of allergy avoidance or removal of the allergen is ideal, although frequently impossible.

Prausnitz-Küstner, serial dilution techniques, Schultz-Dale reaction, direct skin testing with homologous antigen, and other techniques. The specificity of these reactions is generally accepted to be a reflection of a combination of the antigen (allergen) with a corresponding antibody (reagin). The role of humoral factors modifying the reactions with cell-fixed reagin is under investigation.[1] The foregoing being true, the basis of clinical allergy rests on two primary theses: (1) the concept of allergy as a process of "reaction to injury," and (2) the "threshold" concept.

REACTION TO INJURY CONCEPT

Disease, in which the etiology is known, may be considered as reaction to injury.[4] This means that the disease processes as physicians see, study, diagnose, and treat them are reaction patterns (including adaptation and submission) called forth from the body in response to given types of trauma or injury. For example, in a so-called strep throat the injurious agent (injury) would be the beta hemolytic Streptococcus; the disease (reaction) would be fever, leukocytosis, injection and soreness of the rhinopharynx, and perhaps feelings of lethargy and lassitude. In a disease process such as subdural hematoma, the injury would be trauma to the head with subsequent rupture of the subdural communicating vessels, the outpouring of blood, organization of that blood with membrane formation, expansion of the organized clot by osmosis of fluid through the membrane, and the subsequent signs of increased intracranial pressure (reaction). Even with respect to emotional diseases, external emotional trauma may serve as the injury. This principle is diagrammed in figure 1, in which

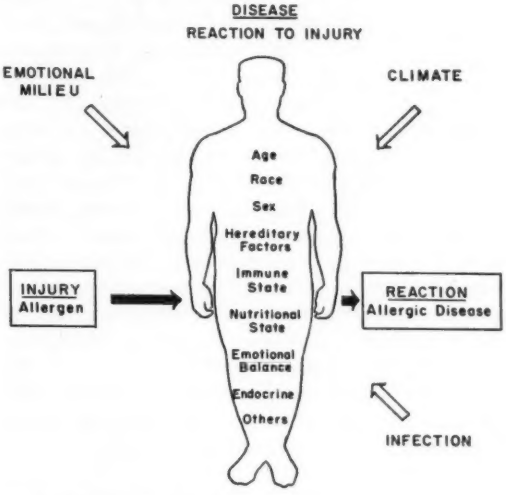

Fig. 1. The concept of allergy as "reaction to injury" with conditioning factors is illustrated.

the injury is the allergen and the reactions are the diseases of allergy. Allergens, for the most part, are protein substances such as the type specific proteins found in foods, or proteins in the air such as house dust, mold spores, grass pollens, tree pollens, and the pollens of such weeds as ragweed or marsh elder. The common allergic diseases are those of asthma, perennial allergic rhinitis, hay fever, eczema, hives, and gastrointestinal allergies.

As can be seen in figure 1, the injury is not the whole story. There are conditioning influences, both within the internal milieu of the body and coexisting external factors from the environment which may modify the reaction. Those factors in figure 1 that are of prime importance, with respect to allergy in infants and children, are age, heredity (for allergy generally rests upon a genetic predisposition), state of nutrition, the internal and external emotional milieu, concomitant infections and associated immune states, and climatic factors.

Let us take one example to illustrate the influence of age. It is well known that the percentage of weight

and volume of lymphoid tissue in the body is greatest in the child and progressively decreases in proportion as the person matures. Thus, the percentage of volume of tonsillar and adenoidal tissue that effectively can block the nasal airways is greatest in infants and children. Also, the infant or child being smaller throughout, effective anatomical airways are also proportionately smaller. Therefore, any degree of swelling of the membranes lining the respiratory airways, from whatever cause, will create a greater blocking effect to the stream of air in inspiration and expiration in the infant as compared to the older child or adult. Physicians dealing with infants and children are well aware of the pale, swollen, boggy turbinates and nasal mucous membranes seen in allergic rhinitis. The degree of this swelling is perhaps the same as in the adult, but generally the degree of effective blocking to the transport of air is greater in the child because the airways are smaller to begin with. When this factor is considered in conjunction with the proportionately greater amount of lymphoid tissue, one readily can understand why the "mouth breather" is so frequently observed in the allergic child. This same principle may account for the frequency of so-called asthmatic bronchitis in the young child wherein there is wheezing in association with infection of the respiratory tree. Again, the airways are smaller; the effective edema and secretions are more pronounced in their total blocking effect. These relationships are diagrammed in figure 2.

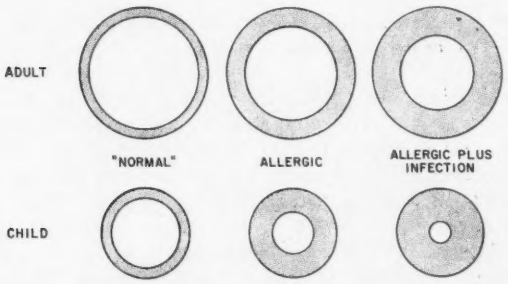

Fig. 2. A comparison is made of the effective airways in adults and young children, in those who are "normal," in those with allergy, and in those with allergy plus infection.

Generally, heredity is thought to be a necessity of the classical allergic state (for example, asthma, hay fever). An atopic or allergic person usually has a family history consistent with an inherited capacity to develop altered reactivity.

The importance of nutritional factors in modifying reaction patterns in allergic children has been discussed in detail by McGovern and Zuckerman[6] and will be enlarged upon in relation to the specific allergic diseases, as will the other conditioning influences.

THRESHOLD CONCEPT

Having reviewed the several qualitative conditioning influences on reaction patterns in allergy, certain quantitative aspects should be considered. These may be illustrated by the threshold concept. By threshold, I mean that level of resistance at which a total effective force of injury, to the internally and externally conditioned person, is sufficient to precipitate the illness (allergic disease). This concept is illustrated in figure 3.

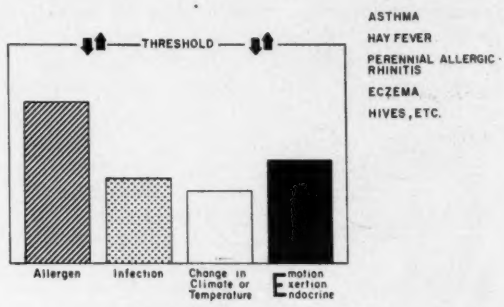

Fig. 3. The "threshold" concept in allergy is presented as that level of resistance at which a total effective force of injury, to the internally and externally conditioned person, is sufficient to precipitate allergic disease.

In figure 3, for purpose of illustration, let us assume that one is dealing with a fairly typical child prone to recurrent bouts of allergic asthma and that therefore, by definition, he is sensitive to certain allergens. In addition to the allergens, the other vertical bars represent quantitative factors that will help condition or precipitate the patient over his threshold into an attack. Each of these factors does not necessarily operate in every case, nor do they operate to the same degree. These, however, are the most important and most frequently encountered factors in clinical allergy. The first column represents foreign proteins (allergens), either in food or in the air, to which the child is sensitive. Let us assume that his primary allergens are air-borne and that the height of this column as shown represents 200 particles per cubic yard of air, that is, grass pollens, mold spores, and the like. At this point, the patient is not coughing and wheezing, for there is an insufficient concentration of allergen to exceed his threshold. Now let us suppose that the count went up to 400 particles per cubic yard of air. The column would be doubled, the threshold exceeded, and the patient would have asthma.

Infection is represented by the second bar. Frequently the asthmatic child develops a respiratory or other infection and starts to wheeze, there being no change in the pollen count. In general, an acute infection in an allergic child produces one of two pat-

terns.[3] The first is observed in association with pertussis or viral infections such as measles, chickenpox, mumps, generalized vaccinia, and other more nonspecific virus infections. In this group there is generally temporary clearing of the allergic manifestations. The second pattern is observed in association with the more common bacterial infections of the respiratory tree or occasionally elsewhere in the body. Concomitant with these infections, the allergic diseases, particularly bronchial asthma, frequently are exacerbated. Thus, the infection in some way has added onto the allergen column or lowered the threshold so that it is exceeded. The exact mechanism of this is not completely understood, but there are several possibilities; namely, (1) the patient may be allergic to the type specific protein of the infecting agent, (2) the infectious agent along the respiratory tree may increase mucosal edema and mucus, and/or (3) in some general stress manner the infection may lower the patient's threshold. It is known that the normal nonallergic person, except perhaps the very young, will not wheeze with comparable infections.

Sudden changes in climate, represented by the third bar, notoriously will precipitate attacks of asthma in many asthmatic children, yet with little or no change in allergen counts or the presence of intercurrent infection. So frequently in our part of the country mothers state that their child begins to wheeze "every time a norther blows in." Also, a significant percentage of patients with nasal pollenosis have increase in symptoms with sudden temperature changes, paradoxically occasionally even when they go into air conditioning, in spite of the fact that this generally reduces the effective pollen count.

The fourth column stands for three factors, which one might call the "three black E's." They are emotions, endocrine factors, and over-exertion.

One of the patients from our clinic illustrates in a simple way how emotional factors may precipitate an allergic child over his threshold into an attack of asthma. It is recognized that many more subtle and elusive mechanisms are more frequently in operation, but this case should clearly illustrate the point.

An 8 year old white boy, the middle of a sibship of 3, has a father who could be described as a "pathologic drinker." Periodically when he comes home inebriated, he beats the mother. He nevertheless remains deferential to the children. Almost invariably following these episodes, the patient is reported by the mother to have had an asthmatic attack and is frequently brought into the clinic for treatment for the attack. The other 2 siblings do not have attacks of asthma, though 1 is prone to enuresis and temper tantrums, and the youngest has infantile eczema. There is a strong allergic family history; the patient shows eosinophilia and positive skin testing to inhalant allergens. This phenomenon occurs in the absence of increase in pollens (allergen column), of infection, and of change in climate. In some way, the emotional stress has lowered the threshold.

A perhaps more subtle pattern of the role of emotional factors has been illustrated frequently by patients with infantile eczema. The mechanism to be delineated may be easily transposed to the asthmatic, which in fact is often the case, but can be visualized readily in the infant with eczema. If the physician of a patient with infantile eczema will take the time to listen intelligently to the mother, with whom he has good rapport, he frequently observes the sequence of rejection, guilt, anxiety, and then overprotection.

The baby with infantile eczema is a thoroughly miserable little creature. He is itching, scratching, irritable, crying, and a mass of ugly exudative lesions. The child demands most of the mother's time and attention night and day as well as much of the father's, particularly at night when he returns from a hard day's work. In spite of the normal strong emotional investment that a mother has in her offspring, she cannot help at times having some conscious or subconscious feelings of irritation, anger, and rejection toward her eczematous infant. Chaos often is created in the family unit by the infant, who by his nocturnal difficulties "keeps us up all night with his crying. . . . My husband says he is so worn out that he cannot do a good day's work." The mother, who has been living with this problem 24 hours a day, cannot help asking, "What have I done to deserve this?" and has occasional feelings of rejection toward her own baby. When she recognizes these feelings of rejection, the average mother responds with feelings of guilt. The strong natural maternal-child relationship in her mind does not allow for rejection. From this guilt, feelings of anxiety are stirred up. The response to this anxiety is most frequently translated by the mother into active overprotection for her child. The vacillating alternating overprotection and rejection that are impounded upon the infant merely aggravate the infant's irritability and existing allergic disease, which tends to create a vicious cycle. This is not merely theory but may be observed time after time in the practice of allergy. Obviously, a great deal of therapeutic benefit can be obtained by helping relieve the anxiety in terms of helping the mother realize that her occasional feelings of rejection, if not justified, are certainly normal.

With respect to overexertion, frequently the young asthmatic patient begins to wheeze after he has played hard or perhaps ridden his bicycle too strenuously. There will have been no change in the allergens, no intercurrent infection, no change in climate, no apparent adverse emotional factors; yet, from the exertion alone apparently his threshold in some way is lowered.

It is conceivable, though I know of no studies on

the subject, that an increase in exposure of allergens to the respiratory mucosa, following increased minute volume of air transport in exercise, may be of etiologic significance.

Endocrine factors, though far from being completely understood, in some way must play an important role. So frequently in adolescence, allergic manifestations tend to remiss or exacerbate when other factors may seem to be reducible. Also, in the adult, during pregnancy similar patterns are observable.

In consideration of the foregoing concepts, certain principles of therapy become clear and operational in the treatment of any of the allergic diatheses, with changes in emphasis as indicated by the specific disease. Whether the symptom patterns in respiratory allergies, for example, result primarily from involvement of the nasal and pharyngeal mucosa (allergic rhinitis), or from the lower respiratory tree (bronchial asthma), or from a combination of these, the fundamental mechanisms are much the same. Thus, definite principles of therapy may be outlined with different shading of emphasis where indicated.[5]

PRINCIPLES OF THERAPY

Avoidance.—As one might surmise correctly from figure 3, in all forms of allergic phenomena, avoidance or removal of the allergen is ideal; unfortunately, this is frequently impossible though much can be gained by practical elimination procedures. Among the respiratory allergies, for example, the most significant etiologic agents are in the inhalant group of allergens such as house dust, pollens, mold spores, feathers, and the danders from common household pets. All household pets must be eliminated from the immediate environment of any allergic child even in the absence of positive skin tests. Though the child may not be sensitive to these danders at the moment, he has already demonstrated a capacity for sensitization and at any time may develop reactivity to these potent allergenic substances. It must be realized that this accomplishes quantitative avoidance only, for usually no amount of discipline will prevent very young patients from occasionally playing with their friends' pets. With respect to feathers, kapok, and certain other strong sensitizing allergens in the household, nearly complete avoidance can be effected.

A much more difficult problem, however, is the elimination of potent allergens such as mold spores, pollen particles, and particularly house dust. It is obvious that this latter ubiquitous substance cannot be completely eliminated or avoided in the house. It is important when unable to eliminate completely such an offending allergen, to reduce the amount reaching the "shock organ" at least for intermittent periods. Even partial removal of dust by cleansing methods and removal of household effects that are prone to hold or contain dust are indicated. Obviously one cannot remove all of the furniture, pictures, rugs, and other objects that hold dust in the house, so it becomes necessary to eliminate dust in the most effective areas. This certainly would be in the child's bedroom, where one can estimate that the child spends 50 to 80 per cent of his time in the house.

INSTRUCTIONS FOR DIMINISHING HOUSEHOLD ALLERGENS

1. The room should contain only one bed, if possible. Mattress and pillows must be covered and made air tight. If the bed contains box springs, the box springs must be covered. Mattress pads should not be used.

2. All furniture, rugs, carpets, curtains, and drapes must be removed from the room, clothes closets emptied, and the room cleaned as follows:

a. The walls, woodwork, and floors in the room and in the closets should be cleaned with damp cloths, and the floor waxed.

b. The bed and springs should be scrubbed outside the bedroom.

c. The mattress and all pillows should be covered with rubberized cloth or nonallergic plastic covers.* This must be done outside the room. A Dacron or Acrylan pillow may be used uncovered if preferred. Bedclothes should be of a material that will stand frequent washings.

d. A wooden chair which has been scrubbed may be used in this room.

e. Only rugs which can be washed at least once a week may be used on the floor.

f. Plain light curtains, which must be washed once weekly, may be used. Plastic curtains, which can be wiped daily, are most satisfactory.

g. This room must be cleaned thoroughly at least once a week. After all the windows are closed for 1 hour, the floor, furniture, tops of doors, window frames, sills, and the like should be cleaned, using frequently replaced damp rags or oil mop. The doors and windows of this room should be kept closed as much as possible.

3. Cotton sheets and synthetic fiber blankets should be used for bedding; comforts, quilts, or quilted robes should not be permitted.

4. If there is a hot-air heating system in the house, the heating system should be shut off in the bedroom, substituting for it a small gas or electric heater. All safety precautions for both the child and the environment should be observed.

5. In cleaning the whole house, brooms or dusters never should be used; oil mops, vacuum cleaners, or damp rags always are used. The patient should remain out of the house when it is being cleaned.

6. Overstuffed furniture and rugs in the house should be vacuum cleaned once daily, if possible.

7. All pets must be removed from the house.

8. Only hypoallergenic insect sprays or powders may be used. Odoriferous substances, such as camphor and tar, must be avoided.

**Several companies specialize in the manufacture of these products at reasonable prices.*

9. Patients should avoid handling objects that are covered with dust, such as books, boxes, or clothing that has been stored in cases, closets, trunks, or cedar chests over long periods.

10. Allergic children should not have stuffed toys.

11. Efficient air conditioning units, well maintained, frequently are very helpful.

For pollen-sensitive patients, visits to the seashore or certain other areas during specific pollinating seasons can be beneficial, particularly for ragweed-sensitive persons. Automobile rides in the country should be avoided during the season of specific pollenosis.

Symptomatic Therapy.—Good symptomatic therapy when a patient "breaks over" the threshold comprises carefully selected medical or drug therapy, coupled with a keen awareness of the great importance of emotional factors. The latter has much to do with the choice and proper timing of specific medication. For example, in bronchial asthma the ideal time for sedation and bronchodilation is early in the attack. Thus, bronchial spasm with attendant feelings of suffocation, anxiety, excitement, and lack of respiratory control, which sets up a vicious cycle of fear and air hunger, is quickly relieved. For this a balanced mixture of ephedrine and secobarbital has proved most effective.

Supportive Treatment.—Supportive treatment includes maintenance of good nutrition[6] and general hygienic measures. Where psychodynamics are of paramount importance, superficial or long term psychotherapy may be indicated.

Prophylactic Treatment.—When other measures fail to keep the child under good control, one must consider the advisability of a thorough allergic study including accurate skin testing and hyposensitization to the offending air-borne allergens. Standard allergy texts delineate this technique. It must be mentioned, however, that though skin testing and hyposensitization when properly conceived and thoroughly utilized can produce significant beneficial results, no area in the field of allergy has been so misinterpreted and mishandled. The proper utilization of these techniques requires considerable careful training if good results are to be anticipated. Results of skin testing always must be correlated with a careful allergic history and physical findings. Also, it must be remembered that the results of these tests, like many other laboratory tests, are not always 100 per cent significant in their correlations and frequently serve only as valuable guideposts for therapy. Rarely, children who are clinically sensitive at the nasal mucous membrane (shock organ), for example, may prove to have negative skin tests to the responsible allergens and vice versa. When this is the case, the allergist may use the "sniff test" applying unmodified pollens directly to the membranes. In gastrointestinal allergies, in which skin testing to specific food proteins in a given patient may be partially unreliable, one may resort to carefully controlled elimination diets.[6]

Periods of continuous prophylactic antibiotic therapy often have proved of great value in selected cases of severe or frequently recurring bronchial asthma, where infection seems to play an important role in taking the patient over the threshold. This is carried out much in the same fashion that is recommended for the management of patients with mucoviscidosis. Prophylactic antibiotic therapy may be of particular value during the season in which repeated infections of the upper respiratory tract are encountered. Though this procedure is now standard in prophylaxis of polycyclic rheumatic fever, mucoviscidosis, and certain other recurrent infectious diseases, it has not received proper emphasis in allergic diseases.

It is the opinion of many allergists and physicians who deal with the allergic diatheses, that the periodic injection of gamma globulin has considerable merit in the prevention of infectious factors in respiratory allergies. Studies on this, one a national cooperative effort, are being carried out and perhaps will give further factual knowledge with respect to this form of therapy.

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Health Insurance Payments

Benefit payments by insurance companies to the people of Texas who are covered by health insurance policies reached a new high during 1957, reports the Health Insurance Institute.

More than $117,000,000 was paid out to help cover the cost of hospital and doctor bills and to replace income lost through sickness or disability. This was a gain of 13.7 per cent gain over the 1956 figure of $103,000,000. The reports were made from insurance companies doing business in the state.

Persons protected against the expenses of hospital and medical care and treatment received a total of $2,000,000 in benefits from their insurance company policies in 1957, up 16 per cent over the previous year's high of $2,000,000.

Diagnosis and Management of Fibrocystic Disease in Infants And Children

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THE profound pulmonary changes of fibrocystic disease of the pancreas largely account for the principal handicaps occurring in children with this crippling disorder and emphasize the need for its early diagnosis. Fibrocystic disease apparently existing in varying degrees of severity may account for the observation that the course of the illness in some cases can be effectively and substantially modified and prolonged. Proper use of a number of new antibiotic agents provides regularly recurring opportunity for improving on the management of the disease, and indeed, the favorable changes seen in a child's general state of nutrition may be due largely to a better control of chronic pulmonary infection, together with proper diet and use of an increased intake of special vitamins and pancreatic enzymes. Effective use of a properly designed treatment program for fibrocystic disease, therefore, requires establishment of the diagnosis before extreme pulmonary changes and pronounced malnutrition occur.

Dr. Gunyon M. Harrison, assistant professor of pediatrics, Baylor University College of Medicine, and his co-author submit this article from the Fibrocystic Disease Clinic, Junior League Children's Diagnostic Clinic, Texas Children's Hospital, and Baylor.

Diagnosis of fibrocystic disease of the pancreas depends on clinical clues plus abnormal findings in secretions from the pancreas, cutaneous glands, and salivary glands. Treatment includes prophylactic antibiotics, nutritional aids, and pancreatic enzymes. Diminishing the severity of pulmonary complications, improving the general state of nutrition, and educating the family help to modify the severity of this incurable condition.

DIAGNOSIS OF DISEASE

CLINICAL CLUES

There are certain clinical manifestations that are considered typical of fibrocystic disease of the pancreas. These appear soon after birth and almost invariably before the child is 5 years of age. In a young pediatric subject the following symptoms and signs are clues that suggest the diagnosis of fibrocystic disease: failure to gain weight plus (1) intermittent or continuous foul bulky stool, (2) extreme sweating, (3) frequent attacks of pneumonia with "asthmatoid" features.

Pronounced failure to gain in weight occurs despite an extraordinarily good appetite. Peculiar stools number four to six daily, are foul, mushy, and greasy in appearance, and typically float on the surface of the water in the commode. Excessive perspiration is a conspicuous sign occurring out of all proportion to environmental temperature. Parents frequently observe that the child's forehead is covered by a crust of salt. Humid, hot weather may account for undue sweating, and losses of sodium, chloride, and water in the sweat are sufficiently large for hyperthermia and shock to occur. Regularly recurring attacks of pneumonia are usually accompanied by low grade fever, a nagging persisting cough, and expiratory wheezes; frequently the symptom of wheezing is mistaken for "allergic asthma" and a therapeutic program for asthma may be undertaken. With treatment that would be adequate for an ordinary pulmonary infection, the patient with fibrocystic disease usually has a persisting barking cough.

Supporting clinical clues include (1) intolerance to fat, (2) family history of a sibling's death in childhood from pneumonitis and bronchiectasis, and (3) history of a sibling dying of intestinal obstruction at birth.

The number of grease-laden stools is especially increased when the diet contains a high content of fat. The history of genetically related infants and children dying from pneumonia and bronchiectasis, and of newborn infants from intestinal obstruction (meconium ileus) at birth lends strong clinical support to the conception of hereditary transmission of this disease. Genetic studies heretofore indicate that fibrocystic disease is inherited as a mendelian recessive trait, and is estimated to occur in the general population from 1 in 600 persons to 1 in 10,000.

The clinical clues that are diagnostic are meconium ileus or any three of the following: (1) four to eight typical stools daily, (2) repeated attacks of pneumonia, (3) deficiency of pancreatic enzymes, (4) strikingly elevated levels of electrolytes in sweat, and (5) excessive concentration of electrolytes in saliva.

A diagnosis of fibrocystic disease can be made tentatively in the newborn infant with meconium ileus.

This is the earliest major expression of the disease and is characterized by inspissation and obstruction of the intestine by thick mucilaginous meconium. The mortality rate is high, and prompt surgical management is needed in almost all instances. Infants who survive usually subsequently develop typical manifestations of fibrocystic disease.

Lung involvement in fibrocystic disease shows a roentgen-ray appearance that is usually characteristic. It consists of linear infiltrations extending out from the hilar areas, which are interspersed with small radiolucent areas of obstructive emphysema. Thus, a diagnosis of fibrocystic disease may be almost certain in any person who distinctly shows clear-cut clinical clues and radiological findings. This diagnosis can be substantiated in most instances by carrying out the following laboratory tests.

LABORATORY TESTS

Three screening tests are useful.

The palm sweat test discloses the approximate amount of chloride in sweat from the skin surface of the palm. Test material consists of a suspension of silver nitrate and potassium dichromate in an agar base. The subject's palm is held against the medium in a petri dish for 30 seconds and a light yellow discoloration appears at the site of the hand print. The intensity of color change is in proportion to concentration of chloride in the sweat, and is graded from 1 plus (less than 60 milliequivalents per liter) to 3 plus (a concentration of 250 milliequivalents per liter).

Urinary excretion of free iodine is a crude index of the extent of intestinal absorption. Lipiodol (E. Fougera and Company), which contains 40 per cent free iodine, is given orally (0.5 cc. per kilogram of body weight, not exceeding 10 cc.). Urine is collected before administration of Lipiodol and afterwards at 6, 12, and 18 hours. Nitric acid (eighth normal) is added to serial dilutions of urine, and then 1 per cent fresh starch solution is added. A blue color indicates the presence of iodine. Persons without pancreatic disease show a positive blue reaction in all dilutions of urine. Those with partial or complete pancreatic dysfunction show no color change in the urine dilutions greater than 1:2. Individuals who have minimal pancreatic involvement may show, on occasion, a color change in dilutions greater than 1:2.

The determination for trypsin activity in feces is a screening test whereby a dilution of normal stool (1:100) digests the gelatin surface of x-ray film in 1 hour at 38 C. Failure of gelatin digestion occurring in stool dilutions of 1:5 and 1:10 indicates the possible absence of trypsin activity in the specimen stool. Disadvantages of this test lead to false interpretation. As an example, feces from infants with minimal pancreatic disturbance and sufficient tryptic function may digest the gelatin film in a dilution of 1:100. In addition, infants older than 12 and 15 months of age may harbor in their stool bacteria which have gelatin digesting properties.

Specific diagnostic tests include (1) quantitative determination of sodium and chloride in sweat and (2) determinations of hydrogen ion concentration, viscosity, tryptic activity, and mucoproteins in duodenal secretions.

The normal value for chloride and sodium in sweat of a normal subject is about 32 and 59 milliequivalents per liter respectively, and about 106 and 133 milliequivalents per liter respectively in sweat of persons with fibrocystic disease. The excretion of excessive quantities of salt in sweat is unique to individuals with fibrocystic disease, and these unusual concentrations may approximate the levels normally present in blood serum.

Collection of sweat for electrolyte studies is carried out by putting the patient in a plastic bag for about 2 hours. Sweating is provoked by wrapping the patient in two wool blankets. Sweat is collected from the abdomen in a gauze pad held securely by a small plastic patch or in a capillary tube when the patient is removed from the bag. Levels of sodium and chloride in sweat, and simultaneously in blood serum, are then determined.

Duodenal aspiration is carried out under fluoroscopy after an 8 hour fast. The hydrogen ion concentration of duodenal fluid in persons with fibrocystic disease ranges from 3.5 to 8.1, which is in contrast to the range of 6.0 to 8.4 in normal subjects. Thus, the hydrogen ion concentration of aspirated fluid does not accurately identify the fluid as duodenal. For this reason, position of the Levin tube must be ascertained by fluoroscopy. Aspirated material is packed in ice during the time of collection, about 10 cc. of material being required for carrying out the basic determination.

The determination of the viscosity of duodenal fluid is one of the most helpful diagnostic aids for fibrocystic disease, and is measured in an Ostwald viscometer. Healthy pediatric subjects have a normal "flow time" between 1 and 1½ minutes, whereas persons with fibrocystic disease whose duodenal fluid has increased viscosity have a "flow time" which is more than 3 minutes.

Activity of trypsin in duodenal fluid is measured in approximate terms by the digestion of gelatin exposed to varying dilutions of duodenal fluid. The duodenal material in healthy infants and children contains 400 to 40 tryptic activity units. Patients with marked pancreatic involvement will have less than 20 tryptic activity units.

Patients with fibrocystic disease also exhibit a characteristic difference in water solubility of the mucoprotein fractions of duodenal fluid. The mucoproteins in the duodenal fluid of fibrocystic patients are in-

soluble in distilled water, whereas the mucoproteins in duodenal fluid of normal individuals are easily soluble. This abnormal mucoprotein fraction cannot be made soluble by adding trypsin but can be by heating and add sodium hydroxide. Di Sant'Agnese[2] pointed out that of 64 patients with known involvement of the pancreas in fibrocystic disease, 58 had mucoprotein which was insoluble in water.

Miscellaneous tests may be used when there is conflicting evidence of pancreatic disease but are not routinely carried out. They include determination of vitamin A absorption (following oral administration of vitamin A, levels of vitamin A in serum reflect pancreatic function and intestinal absorption) and of pancreatic amylase (measurement of amylase in duodenal fluid).

TREATMENT PROGRAM

A balanced therapeutic program provides special means for controlling the persistent pulmonary infection, for maintaining an improved state of nutrition, and for educating and counselling the parents.

The pulmonary complications of fibrocystic disease, which may develop gradually in some instances, are usually irreversible and account for the patient's ultimate demise. Purulent bacterial pneumonitis, bronchiolitis and bronchiolectasis due to hemolytic Staphylococcus aureus, and obstructive emphysema comprise extraordinarily severe lung disease and make control of chronic lung infection a crucial need.

In our clinic antibiotic treatment is not withheld until there are objective signs of an acute episode of clear-cut pneumonitis. Instead patients are given an antibiotic daily (one-fourth to one-half usual therapeutic dosage) which is alternated every 4 to 6 weeks with a different antibiotic, thereby minimizing the role of resistant strains of staphylococci and of gram-negative bacteria (Pseudomonas aeruginosa, Escherichia coli, and so forth) in supraimposed infection. Patients are routinely given either Aureomycin, Terramycin, or erythromycin daily, reserving chloromycitin, Albomycin, and bacitracin for acute and more severe attacks of pneumonia and bronchitis.

Cultures are carried out every 2 months in order to note any significant change in bacterial flora of throat and sputum, or alteration in "sensitivity tests" of bacteria to antibiotic agents.

Inhalation of an antibiotic aerosol may be of some help for the child who is more than 4 years of age. A DeVilbiss No. 40 nebulizer (DeVilbiss, Somerset, Pa.), which is connected to a small plastic disposable face mask, can be driven by tank oxygen or a small hand pump; 2.0 ml. of Alevaire and 2.0 ml. of a solution containing 250,000 units of aqueous penicillin and 100 mg. of streptomycin are used in the nebulizer for inhalation three times a day.

Pooled gamma globulin (0.2 cc. per kilogram of body weight) is usually given regularly every 6 weeks, although no patient in our experience thus far has had diminished fractions of serum gamma globulin.

Postural drainage is carried out three and four times a day, and saturated solution of potassium iodide (1-2 drops per year of age) is given four times a day.

The appetite of children with fibrocystic disease is incredibly excessive, and no special effort is made to reduce a child's intake of fat and complex carbohydrates unless his general well-being is clearly improved by decreasing the amounts of starch and fat in his diet.

Synthetic pancreatic enzymes such as Viokase (Vio-Bin Corporation, Monticello, Ill.) (1 teaspoonful of powder or 1 tablet) or Panteric Granules (Parke, Davis and Company) (1 teaspoonful) are given three times daily if there is major deficiency in pancreatic function. Water-miscible vitamins are prescribed in preparations that offer 20,000 to 50,000 international units of vitamin A and 4,000 to 10,000 international units of vitamin D.

The child's general medical status and progress, as well as pertinent information which concerns knowledge and study of fibrocystic disease, should be discussed in unhurried conferences with the parents. There is no cure for this disorder, and indeed, the extent to which medical control can be effectively carried out appears to depend directly on the basic severity of the disorder in each child. With instruction and guidance for learning how to live with a chronic illness, most parents will be more able to understand the logical reasons for a specialized treatment program and for the necessity for adhering to it.

SUMMARY

Diagnosis of fibrocystic disease of the pancreas depends on a strong suspicion of certain presumptive clinical signs and symptoms and on the demonstration of abnormal findings in secretions from the pancreas, cutaneous glands, and salivary glands. Proper treatment consists of using prophylactic antibiotics over long periods, nutritional aids, and pancreatic enzymes. Diminishing the severity of pulmonary complications, improving the general state of nutrition, and educating the family unit all serve to modify the severity of an incurable condition.

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Chemotherapy in Childhood Cancer

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CONSIDERABLE accumulated clinical experience indicates that it is now possible by means of chemicals to alter the natural course of cancer in many patients. Remissions are induced with encouraging regularity in children with acute leukemia. Measurable changes are produced in the size of tumor masses and metastatic growths. Symptomatic relief is afforded patients with far advanced neoplastic disease. Although the chemotherapeutic effects are variable and only temporary, sufficient progress has been made so that the clinical management of cancer patients is carried out with more optimism and more rational aggressiveness than before.

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The objectives, methods, and role of chemotherapy in management of acute leukemia, malignant lymphomas, neuroblastoma, retinoblastoma, and disseminated cancer in children are discussed, with emphasis on the effectiveness of drugs in acute leukemia. It is suggested that the availability of a number of chemotherapeutic agents permits a more rational, a more aggressive, and perhaps a more optimistic attitude in the handling of children with cancer.

Periodic evaluations of the effectiveness of cancer chemotherapy seem particularly important in pediatrics. Vital statistics[11] demonstrate that in children from 1 year of age through adolescence, malignant neoplasms and leukemia constitute, next to accidents, the leading cause of death. Mortality from cancer and allied diseases exceed manyfold the number of deaths caused by heart disease, pneumonia, tuberculosis, acute poliomyelitis, or the principal communicable diseases of childhood. Of all children that die each year, 1 in 9 dies of a malignant neoplasm.

During the 3 year period from July 15, 1954, through July 15, 1957, there were 214 children with malignant disease seen at the Pediatric Service of the University of Texas M. D. Anderson Hospital and Tumor Institute. More than 70 per cent of these children received antineoplastic drugs at some stage in the course of their disease. The clinical data on these cases permit certain generalizations regarding the use of chemotherapy in the management of childhood cancer.

OBJECTIVES OF CANCER THERAPY

The objectives of cancer therapy are several (table 1). Cure is the ultimate goal of therapy, but at the present time cancer in humans cannot be cured by means of drugs alone. Surgery and irradiation still offer the only definitive, potentially curative, approaches to neoplastic disease. Failing in eradicating the disease, the physician next endeavors to arrest or delay the course of the cancer. Success here is measured in prolonged survival time. Data from various medical centers suggest that in children with acute leukemia the survival periods actually have been prolonged through the use of drugs.[7, 8, 12]

TABLE 1.—*Objectives of Cancer Therapy.*

Curative	Arrestive	Palliative	Synergistic	Preventive

Adapted from Bierman, H. R.: Management of Patients with Incurable Neoplastic Disease, Kaiser Foundation Med. Bull. 3:291, 1955.

Palliation refers to the relief or alleviation of symptoms without actual influence on the progress of the disease. The patient can be kept more comfortable—he will perhaps have a longer useful life—but his actual duration of survival may not be prolonged. A number of the chemotherapeutic agents do provide significant palliation in a variety of clinical situations. In its broadest sense palliative drug therapy includes the judiciously planned program of long term administration of analgesic agents and narcotics for the control of pain.

It is possible that one drug can act synergistically with another drug or with another procedure to increase the effectiveness of therapy.[1] For example, there is some evidence that Azaserine and 6-mercaptopurine used together in acute leukemia produce a greater number of long remissions than 6-mercaptopurine alone.[12] TEM and x-radiation therapy in retinoblastoma also may be synergistic.[9] Significant palliation in many patients with advanced cancer has been induced by nitrogen mustard in patients given cortisone at the same time.[10]

Preventive chemotherapy is still a theoretical consideration. Xeroderma pigmentosum is a hereditary condition in which skin disorders precede an invariably fatal termination from malignancy. Can one prevent by drugs the occurrence of skin carcinoma in these children? Clinical and hematologic evidence

of acute leukemia may occur terminally in many children with lymphosarcoma. Is it possible to delay the appearance of this "leukemic phase" in patients with lymphosarcoma by the use of antileukemic chemotherapeutic agents? In children with neuroblastoma, Wilms' tumor, or Ewing's sarcoma, does the addition of drugs to surgery and radiotherapy improve the 5 year survival rate? Clinical studies are under way to determine the answers to these provocative questions.

CHEMOTHERAPEUTIC AGENTS

A number of chemotherapeutic agents are now used in the treatment of cancer in children (table 2). Metabolites are biologically active chemical substances necessary for cell growth. Antimetabolites such as Methotrexate and 6-mercaptopurine are compounds that resemble structurally the metabolites. This similarity in chemical structure enables the antimetabolite to enter the same metabolic pathways used by the metabolites. The antimetabolites, however, cannot be utilized in the necessary biochemical reactions and the metabolic pathway becomes blocked. When the block interferes with an essential enzyme system such as the one involved in the biosynthesis of nucleic acid, the cell will be injured or killed. Antimetabolites also have been called metabolic antagonists, analogues, and competitive inhibitors.

Polyfunctional alkylating agents constitute another group of drugs of which nitrogen mustard, triethylene melamine (TEM), chlorambucil (CB 1348), and triethylene thiophosphoramide (Thio-TEPA) are examples. When converted into reactive intermediates, these substances can alkylate a wide variety of organic radicals of biochemical importance. When these agents are given to patients, it is believed that the major site of attack is on the essential nucleoproteins of the cell nuclei. Macromolecules such as other cellular functioning protein also are immobilized, and vital respiratory and oxidative enzymes may be blocked.

TABLE 2.—*Drugs Used in Cancer Chemotherapy.*

Drug	Route of Administration	Dose
Methotrexate (A-Methopterin)	Oral	2.5 mg. daily
6-Mercaptopurine (Purinethol)	Oral	2.5 to 6.6 mg./kg. body weight daily
Chlorambucil (CB 1348)	Oral	0.1 to 0.2 mg./kg. body weight daily up to total of 6 mg./kg.
Actinomycin D	Intravenous	15 mcg./kg. body weight daily for 5 days
Nitrogen Mustard (NH_3)	Intravenous	0.4 mg./kg. body weight as single dose
	Intrapleural or intraperitoneal	0.2 to 0.4 mg./kg. body weight as single dose
Adrenocortical hormones:		
Cortisone	Oral or intramuscular	100 to 250 mg./day
Meticorten	Oral	25 to 50 mg./day.

Hormonal therapy in adults is intended to exploit the susceptibility of some hormone dependent tumors to changes in the host hormonal environment. In children, ACTH, adrenocortical steroids, and their synthetic analogues are used chiefly for their antihemolytic and antihemorrhagic actions and for their direct effects, particularly on leukemic processes.

Materials of natural origin which include antibiotics, bacterial products, and polysaccharides and substances of plant and animal sources have been screened for antineoplastic activity. Azaserine, puromycin, actinomycin C, and antinomycin D are among the antibiotics that are being studied in human cancer therapy. Coley's toxin, made from two strains of bacteria, has been used empirically over a period of years as an adjunct in treating malignancies.

Methotrexate (A-Methopterin).—The antimetabolite, Methotrexate, is a folic acid antagonist. Its chemical structure closely resembles that of the metabolite, folic acid. Like other antineoplastic agents, Methotrexate has no selective toxicity for neoplastic cells. Consequently, doses close to general toxic levels are used and undesired reactions are common. The manifestations of folic acid antagonist toxicity include ulcerations of the buccal mucosa, intestinal ulcerations, and bone marrow depression. Alopecia and hypersensitivity reactions in the skin have been seen infrequently. When such manifestations occur, the administration of the drug is discontinued temporarily. It usually is possible to resume the drug at the previous dosage or in some cases at a slightly lower dose level. Methotrexate has proved to be useful primarily in the management of acute leukemia in children. The drug, however, also has produced varying degrees of palliative effect in children with lymphosarcoma, neuroblastoma, and reticuloendotheliosis. The usual dose of Methotrexate is 2.5 mg. by mouth daily, regardless of the size of the child. In treating acute leukemia, this drug is given continuously as long as response is evident. When Methotrexate is used in children with other neoplasms, an "interrupted" schedule is followed whereby the children are subjected to alternating periods of 4 weeks "on the drug" and 3 weeks "off the drug." Other folic acid antagonists include Aminopterin, Adenopterin, and Aminoanfol.

6-Mercaptopurine (Purinethol).—The synthesis of 6-mercaptopurine was reported in 1951, and clinical investigations were begun in 1952. The drug apparently interferes with the metabolic pathways leading to the synthesis of nucleic acids. 6-Mercapto-

purine is used principally in the management of acute leukemia in children. Although the drug is generally well tolerated by children, serious bone marrow depression can occur in some instances. 6-Mercaptopurine does not show cross resistance with folic acid antagonists and the adrenocortical steroids. The drug is given by mouth in a dose of 2.5 mg. per kilogram of body weight. Doses as high as 6.6 mg. per kilogram of body weight have been used. There is some evidence that with the higher doses, 6-mercaptopurine produces remissions more rapidly than with the conventional dose. The administration of high doses is limited to short periods of time, 2 or 3 weeks, and frequent bone marrow examinations are done.

Nitrogen Mustard (HN_2).—Among the alkylating agents, the aliphatic nitrogen mustard has had the most extensive clinical usage. For systemic use, the drug is given intravenously or intra-arterially. Nitrogen mustard is fixed to tissue constituents within a matter of minutes. The drug also can be injected in serous cavities in certain clinical situations.[14] The drug is potentially dangerous and causes sloughing if perivascular leakage occurs. Nausea and vomiting are frequent in the immediate postinjection period. In therapeutic doses, significant though temporary depression of bone marrow activity is to be expected. Intervals of at least 6 weeks are recommended between successive courses of the drug. More severe bone marrow depression must be watched for if the marrow already had been damaged previously by x-irradiation or by other chemicals. Nitrogen mustard is given as a freshly prepared solution intravenously in a single dose of 0.4 mg. per kilogram of body weight. The same total dose administered in 2 or more divided doses over a period of several days does not appear any more effective.[5] In children the reduction in the number of injections necessary has certain practical advantages. Arterial injections have been used in selected patients who had tumors localized in areas with an accessible arterial supply. Nitrogen mustard is effective in malignant lymphomas but not in acute leukemia. The drug is also used for palliation in advanced stages of cancer of various types.

Chlorambucil (CB 1348).—Among the drugs related to nitrogen mustard, an aromatic compound, chlorambucil (CB 1348), is receiving extensive clinical trial.[6, 13] The drug possesses the advantage that it is taken by mouth. Its pharmacologic actions qualitatively resemble those of nitrogen mustard. Relatively large doses have been given over long periods of time without signs of toxicity in the patient. This drug has proved to be effective in the treatment of Hodgkin's disease, less effective in lymphosarcoma. The recommended daily dose is 0.1 to 0.2 mg. per kilogram of body weight given orally. The drug is usually continued from 3 to 6 weeks per course. It has been possible to give the drug for longer periods of time, but careful observation of the hematologic status of the patient is indicated when the cumulative total of the drug administered approaches 6 mg. per kilogram of body weight. Previous use of radiation therapy or other chemotherapeutic agents in the patient will increase the vulnerability of the bone marrow to damage.

Other Alkylating Agents.—The polyethylenamines such as TEM (triethylene melamine) and Thio-TEPA (triethylene thiophosphoramide) also contain the reactive groups of the nitrogen mustard. Both drugs can be given orally or parenterally. Qualitative effects of the agents are similar to those of nitrogen mustard. Increasing experiences with the intratumor and intracavitary use of Thio-TEPA are being reported,[2, 3, 15] but the types of malignancies in which the drug appears to be effective do not occur very often in children. TEM has been used in combination with x-radiation in the treatment of retinoblastoma. Impressive results have been reported.[9] Following oral administration, TEM has produced unpredictable deleterious side effects including permanent bone damage. When the drug is administered parenterally, however, absorption appears to be more uniform and toxicity less severe.

CANCER CHEMOTHERAPY

Malignant diseases in children present a characteristic frequency distribution as to type of neoplasm and anatomic site of involvement. The most common is the acute leukemia–lymphoma group which includes 40 to 45 per cent of all cancer in childhood. The other malignancies which show significantly high incidences are neuroblastoma, Wilms' tumor, bone cancer, brain tumors, and sarcomas of the somatic soft tissues. Together they comprise another 30 to 35 per cent of all childhood cancer. In the clinical management of children with these different types of malignant disease, chemotherapeutic agents have demonstrated varying degrees of usefulness (table 3).

Acute Leukemia.—The treatment of acute leukemia is based primarily on the judicious use of certain antimetabolites and the adrenocortical steroids.[7, 8, 12] Methotrexate and 6-mercaptopurine are the two antimetabolites most commonly employed. They are used sequentially rather than in combination.

If the child, at the time of initial examination, appears to be in fair clinical condition, antimetabolite therapy is started. When resistance to the antimetabolite develops, change is made to the other antimetabolite. Either 6-mercaptopurine or Methotrexate can be used first. Remissions produced by Methotrexate are longer on the average than those produced by 6-mercaptopurine. Remissions that re-

sult from Methotrexate may last from 6 to 8 months. Remissions caused by 6-mercaptopurine average 3 to 4 months. On the other hand, 6-mercaptopurine seems somewhat more effective than Methotrexate in treating older children and children with acute monocytic leukemia. Maintenance therapy during remissions is continuous, the child receiving the full therapeutic dose every day.

TABLE 3.—*Chemotherapy in Childhood Cancer.*

Disease	Drugs Used	Effects Achieved
Acute leukemia.	Antimetabolites, adrenocortical steroids.	Clinical and hematologic remissions. Prolongation of survival period.
Lymphosarcoma.	Antimetabolites. Adrenocortical steroids. Alkylating agents.	Clinical remissions. Significant palliation.
Neuroblastoma.	Antimetabolites. Alkylating agents.	Significant palliation.
Wilms' tumor.	Actinomycin D. Alkylating agents. (?) Antimetabolites.	Significant palliation.
Retinoblastoma.	TEM.	Possible synergistic effect with roentgen ray.
Ewing's sarcoma.	Alkylating agents. (?) Antimetabolites. (?) Actinomycin D.	Palliation of symptoms.
Disseminated cancer of various types.	Adrenocortical steroids and nitrogen mustard.	Palliation in some.

Responses to antimetabolite therapy become apparent only after several weeks. On the average, Methotrexate induced improvements are seen after 3 weeks. Beneficial effects of 6-mercaptopurine take somewhat longer, 4 to 5 weeks, to become definite. Six weeks of Methotrexate and 8 weeks of 6-mercaptopurine administration are considered "adequate trial" periods. Continuation of the drugs beyond these periods when no favorable responses are noted generally does not produce improvement.

The steroids generally are employed most effectively as "emergency" drugs. They are administered from the beginning if the child appears critically ill, particularly if hemorrhagic manifestations are prominent. Steroids can be given whenever the clinical situation becomes acute. The use of steroids is again indicated when resistance to both antimetabolites develops. At times, a steroid is combined with an antimetabolite in an effort to stabilize rapidly the general condition of the patient for a period sufficiently long for the antimetabolite to exert its full effect. The administration of steroids is stopped when remission occurs, and maintenance therapy is carried on with the antimetabolite. Although responses to the steroids appear quickly in most of the patients treated, steroid induced remissions are generally short and resistance will develop. In those responding favorably, remissions or impending remissions are noticeable by the third week. Steroid induced remissions may last from several weeks to several months. Less complete, but often clinically satisfactory responses can be elicited in some patients by second and third courses of steroid therapy. It would appear desirable, however, to "hoard" as much as possible the unique therapeutic potentialities of the steroids. Continuous maintenance therapy with steroids is avoided, whenever possible. Adjunctive measures are instituted to minimize the steroid side actions such as sodium retention, potassium depletion, excessive appetite, and hypertension.

Malignant Lymphomas.—Chemotherapy plays a significant, though a secondary, role in the management of lymphosarcoma and Hodgkin's disease. When the disease appears anatomically localized to a single focus or region, and aggressive therapeutic attack is indicated. Surgical extirpation is carried out if feasible. Roentgen therapy is used. When the disease is disseminated, roentgen irradiation generally is given in segmental fashion to areas with demonstrable node enlargement and to loci producing symptoms. Adjunctive drug therapy becomes important when (a) disease is so widespread to preclude roentgen therapy to all areas, (b) the patient already has received large amounts of radiation and additional roentgen therapy is contraindicated, (c) relief of troublesome systemic manifestations is desired, and (d) rapid decrease in size of pressure producing tumor is wanted. Nitrogen mustard, TEM, and CB 1348 are the drugs that have been used extensively. Significant palliation has been achieved, and symptom free periods have been increased.

Other drugs are used for special clinical situations. Steroids are prescribed for hemolytic episodes. Again, steroids and antileukemic agents are given if a leukemic phase supervenes in the course of lymphosarcoma. The treatment of patients in this leukemic phase ("leukolymphosarcoma") is identical with that outlined for children with acute leukemia. Surprising remissions have occurred. Nitrogen mustard and Thio-TEPA have been used in the palliative management of serous effusions in patients with lymphomas. The drugs are injected directly into the serous cavities such as the pleural and peritoneal spaces, and temporary control of the effusion can be achieved in many cases.

Neuroblastoma.—In the management of children with neuroblastoma, surgery and radiation are the therapeutic procedures of choice; drug therapy should be considered palliative only. Yet, some of the drugs have shown sufficient constancy of effect that their potential usefulness as adjunctive measures to radiation and surgery is being considered. For example, surgery is followed by nitrogen mustard. X-irradia-

tion is then given. Following completion of radiotherapy, Methotrexate on an interrupted schedule is continued for a long time. The purpose is, of course, to increase the rate of long survivals. For palliation in widespread disease, nitrogen mustard, TEM, Thio-TEPA, A-Methopterin, and Aminoanfol have been used.

Retinoblastoma.—Recently, the synergism between TEM and radiation therapy in retinoblastoma has been noted. Such a combination is felt, by some, to be the treatment of choice.[9] Although TEM does not by itself cure the disease, it is reported that TEM decreases the total amount of radiation needed. Reduction in roentgen-ray dosage will result in marked reduction of late radiation complications.

Disseminated Cancer.—Most children with various forms of cancer sooner or later reach a stage of widespread involvement. In these patients, various chemical agents are frequently used on an empiric basis in efforts to provide some comfort. The administration of adrenocortical steroids for a short period (4 to 7 days) followed by nitrogen mustard has produced unexpectedly good temporary remissions and successful palliation in some patients. Actinomycin D, used alone, or in combination with alkylating agents, has proven valuable in some children with metastatic Wilms' disease. Actinomycin D combined with nitrogen mustard has shown occasional palliative effects also in some patients with Ewing's sarcoma and other solid malignant neoplasms. It has been reported that Actinomycin D has produced important, though temporary changes in rhabdomyosarcoma.[8]

Again, malignant serous effusions, primarily pleural effusion and ascites, occur in patients with widespread cancer. The intracavitary use of nitrogen mustard or Thio-TEPA[3, 14] can produce satisfactory control of the effusions in many. The results compare favorably with those obtained by the use of radioactive gold. Alkylating agents are inexpensive; the technique of administration is practical and simple; and no special facilities are required. Good responses to direct intracavitary instillation of alkylating agents have occurred even in malignancies not usually affected by systemic administration of the same drugs.

SUMMARY

The objectives, methods, and role of chemotherapy in the management of several types of malignant disease in children are discussed. In particular, the effectiveness of drugs in acute leukemia is emphasized. It is suggested that the availability of a number of chemotherapeutic agents permits a more rational, a more aggressive, and perhaps a more optimistic attitude in the handling of children with cancer.

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Two Per Cent of Patients Receive "Professional Courtesy"

The typical doctor treats about 2 per cent of his patients on a "professional courtesy" basis, according to the April 14 issue of *Medical Economics*. The magazine said that specialists treat approximately 5 per cent on this basis.

The article was based on a survey of more than 1,000 doctors who were asked their habits in granting professional courtesy to non-M.D.'s. Such courtesy care is usually limited to persons in professions allied to medicine, close friends and relatives, and clergymen, reports the magazine.

One of Eight Is Problem Child

One out of every eight children has a scholastic or behavior problem because of underlying psychic disorders or brain damage, Dr. Frank Ayd, Jr., chief of psychiatry at Franklin Square Hospital, Baltimore, reports.

Although some children are considered unmanageable or bad, there is a lack of recognition on the part of physicians, parents, and teachers of the physical or emotional disturbances causing the behavior, said Dr. Ayd. Proper diagnosis of the problem together with selected drug therapy and psychological care can bring dramatic relief, he reported.

Staphylococcal Pneumonia in Infants and Children

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STAPHYLOCOCCAL pneumonia is a problem that should be of increasing interest to physicians generally. It is primarily a disease of infancy and early childhood where mortality rates are high and serious complications common. The rapidity of its course and the frequent occurrence of antibiotic-resistant staphylococci make it imperative that the practicing physician be cognizant of the typical historical, physical, and roentgenographic characteristics and that he supplement his examination by isolation of the causative agent from the blood, lung parenchyma, or pleural fluid.

Staphylococcal pneumonia, primarily a disease of infancy, is associated with a high mortality rate. Serious complications may be pneumatocele, pneumothorax, pleural effusions, and empyema. The frequency of antibiotic resistant strains of Staphylococcus aureus makes it important that the etiologic agent be identified and therapeutic agents be carefully selected. Twelve cases are reviewed, 2 in detail.

It is the purpose of this paper to describe the findings and hospital course in 12 infants and children seen during the past 3 years who presented with pulmonary disease and in whom the etiologic agent was shown to be Staphylococcus aureus.

CASE MATERIAL

The 12 patients included in this study were hospitalized for the treatment of staphylococcal pneumonia. Only those patients in whom the staphylococcus could be cultured from a normally sterile fluid (that is, blood, lung parenchyma, or pleural fluid) were accepted for inclusion.

From the Department of Pediatrics, Baylor University College of Medicine and the Pediatric Service of the Jefferson Davis City-County Hospital, this paper was prepared when Dr. Schwab was a senior medical student. Dr. Daeschner is assistant professor of pediatrics at Baylor.

The clinical, laboratory, and roentgenographic data are summarized in tables 1 to 4, while the complication and hospital course are considered in table 5. Two cases are reported in detail to illustrate the more common problems encountered in the diagnosis and management of staphylococcal pneumonia. A definite seasonal incidence was noted, four-fifths of the cases occurring in the winter and spring months. The median age range (table 1) at the time of admission was 2 months, which is well below that of patients seen on this general pediatric service. Antecedent infections were present in all patients, 8 of which were upper respiratory infections, and 1 patient had an otitis media. Of particular interest is 1 child convalescent from rubeola who developed a fulminating pneumonic process and died on the third hospital day. Another patient, a premature infant, who survived sepsis in the neonatal period, was readmitted at the age of 8 weeks with staphylococcal pneumonia. The twelfth patient was an infant who had been nursed by a mother with a staphylococcal breast abscess. He was admitted at the age of 18 days with pneumonia due to Staphylococcus aureus with the same antibiotic sensitivity pattern. It is interest-

TABLE 1.—*Summary of the History in 12 Patients with Staphylococcal Pneumonia.*

Symptoms:		
Antecedent infection		12
Upper respiratory infection	8	
Otitis media	1	
Rubeola	1	
Staphylococcal sepsis	1	
Breast abscess	1	
Fever		9
Vomiting or anorexia		6
Cough		5
Age:		
Median	2 mo.	
Range	18 days to 4 yr.	
Sex: 6 males, 6 females.		

TABLE 2.—*Summary of the Admission Physical Findings in 12 Patients with Staphylococcal Pneumonia.*

Temperature:		
Mean	101.4 F.	
Range	98 to 104.4 F.	
Pulse:		
Mean	164 per min.	
Range	135 to 180	
Respiration:		
Mean	42 per min.	
Range	26 to 60	
Physical examination:		
Respiratory distress		8
Cyanosis		5
Chest examination abnormal		10
Dullness to percussion	7	
Rales	6	
Decreased breath sounds	4	
Abdominal distention		9

ing to note that 3 of the infants, though acutely ill, were described as being afebrile by their parents.

Physical findings at the time of admission (table 2) were characterized by respiratory rates of 26 to 60 per minute, marked sinus tachycardia, and body temperatures ranging from 98 to 104.4 F. Examination of the chest revealed percussion dullness, decreased breath sounds, or rales in all but 2 patients. Abdominal distention was a common (75 per cent) and, at times, a distressing complication.

In table 3, pertinent laboratory findings are summarized. The hemoglobin values are not unusual, but

TABLE 3.—*Laboratory Data in 12 Patients with Staphylococcal Pneumonia.*

Hemoglobin:	
Mean	9.8 Gm. per 100 ml.
Range	8.5 to 11.3
White blood cell count:	
Mean	19,800 per cubic millimeter
Range	4,250 to 42,600
Polymorphonuclear neutrophils:	
Mean	65 per cent
Range	37 to 90

the average degree of leukocytosis (19,800 white blood cells per cubic millimeter) is quite impressive. An etiologic diagnosis of Staphylococcus aureus was established in all cases. Urinalyses were consistently negative.

The hospital course was unusually protracted, averaging 48 days (table 5). This was due principally to the pulmonary complications that persisted long after the patient became afebrile. Only 1 patient had no complications. Two patients died, 1 on the third and the other on the nineteenth hospital day. It is significant that despite the severe degree of pulmonary involvement, all surviving patients recovered completely without surgical intervention.

TABLE 4.—*Roentgenographic Characteristics in 12 Patients with Staphylococcal Pneumonia.*

Consolidation	12
Pneumatocele	8
Pleural effusion	3
Pneumothorax	2
Pyopneumothorax	2

TABLE 5.—*Summary of the Hospital Course of 12 Patients with Staphylococcal Pneumonia.*

Complication:	
Pneumatocele	8
Pyopneumothorax	2
Pneumothorax	2
Empyema	2
Sterile pleural effusion	1
Death	2
None	1
Duration of hospitalization in surviving patients:	
Median	48 days
Range	12 to 85 days

CASE REPORTS

CASE 1.—K. C., a 24 day old Negro girl, was in good health until 1 week prior to admission at which time she developed an upper respiratory infection. On the day of admission the mother noted that the infant was having respiratory difficulty, and not feeding normally. The patient's neonatal course had been uncomplicated. She weighed 2.5 kilograms at birth and 3.3 kilograms at the time of admission.

Physical examination revealed an acutely ill, irritable child in marked respiratory distress. The respiratory rate was 60, grunting in character, with flaring of the alae nasi and moderate cyanosis. The rectal temperature was 103.2 F. and the apical heart rate was 180 and regular. Examination of the chest revealed dullness over the right hemithorax with coarse and fine rales over the right base. The abdomen was moderately distended. The remainder of the physical examination including the neurological was normal.

Laboratory studies revealed a white blood cell count of 25,600 with 49 per cent segmented leukocytes, 5 per cent bands, 34 per cent lymphocytes, and 12 per cent monocytes. The hemoglobin was 9 Gm. per 100 ml., and the urinalysis was negative. Blood and throat cultures were taken, and the patient was placed on a regimen of aqueous penicillin, digitalis, and parenteral fluids. Chest roentgenogram revealed consolidation of the middle and lower lobes of the right lung with a right pleural effusion.

The patient continued to have marked respiratory distress during the day of admission and was placed in humidified oxygen. On the following day, chloramphenicol and novobiocin were added on the basis of sensitivity studies. On the third hospital day, she became afebrile, though the pulse rate remained in the range of 180 and physical examination of the chest revealed no change. On the fourth day, however, there was a sudden increase in the respiratory rate from an average of 60 to an average of 80 per minute with a pronounced increase in respiratory distress. Physical examination revealed hyper-resonance and decreased breath sounds over the right hemithorax, and a chest roentgenogram indicated a right pneumothorax with a small amount of fluid in the right base. A thoracentesis was performed, and examination of the empyema fluid by direct smear revealed gram-positive cocci which on culture were confirmed as Staphylococcus aureus. Subsequent chest roentgenograms revealed an air-fluid level and collapse of the right lung to approximately 30 per cent of the original volume without appreciable shift of the mediastinum. The abdominal distention during this period had become quite marked, so that a lavage tube was passed and intermittent suction instituted. Repeated thoracenteses were performed for the removal of empyema fluid and air and for the instillation of bacitracin. During this period, chest roentgenograms revealed pneumatocele formation in the right lower lobe.

On the twenty-eighth hospital day, all medications were discontinued except for a sulfonamide preparation. The remainder of the hospital course was essentially uneventful. Complete resolution of the chest findings occurred, and the patient was discharged on the sixtieth hospital day. She was entirely normal when seen in the outpatient department 2 weeks later.

CASE 2.—J. C., a 4 month old Latin American girl, was in good health until 1 week prior to admission, when she developed fever, cough, and vomiting. Examination revealed

a left otitis media and pharyngitis. Penicillin plus a sulfonamide preparation was given for 5 days. She responded satisfactorily and appeared to do well until the morning of admission when she became irritable and developed fever, grunting respirations, and cough.

Physical examination revealed a pale, listless, irritable, infant weighing 5.2 kilograms (birth weight, 3.0 kilograms) who appeared acutely but not chronically ill. Temperature was 102.2 F.; pulse, 148. The respirations were 40 per minute and labored, but there was no cyanosis. Pertinent physical findings included bilateral tympanic membrane injection and moderate pharyngitis. Examination of the chest revealed dullness to percussion over the lower lobe of the left lung with fine respiratory and expiratory roles. The abdomen was distended, tense, and tympanic; bowel sounds were hypoactive; and the neurologic status was normal.

Laboratory data included: hemoglobin, 11.2 Gm. per 100 ml.; white blood cells, 35,000 per cubic millimeter with a differential of 62 per cent polymorphonuclear leukocytes; 11 per cent bands; 25 per cent lymphocytes; 1 per cent monocytes; and 1 per cent eosinophils. Chest roentgenogram revealed consolidation of the entire left upper lobe and portions of the left lower lobe. The urinalysis was negative as was a lumbar puncture.

The patient was started on chloramphenicol but subsequently maintained on penicillin, erythromycin, and a sulfonamide preparation. The temperature elevation was intermittent in type with spikes to 104 F. and fluctuated between 102 and 104 F. until the seventh hospital day when the patient became afebrile. She remained essentially unchanged for a few days, then developed increasing respiratory difficulty with cyanosis. At this time roentgenographic examination revealed that the left lung field was completely obscured by a homogeneous density and that the heart and mediastinum were shifted to the right. The right lung field was clear except for a small area of consolidation at the base. The patient's condition became progressively critical. On the sixteenth hospital day thoracentesis on the left produced 65 cc. of blood tinged purulent fluid from which Staphylococcus aureus was cultured. Bacitracin was instilled. On the eighteenth hospital day closed surgical drainage of the pleural cavity was instituted. On the nineteenth hospital day the patient's condition deteriorated rapidly, and despite all emergency measures she died. Necropsy revealed consolidation of the left lung with marked pleuritis and empyema obliterating the pleural cavity.

DISCUSSION

A review of the medical literature of the past 30 years indicates that there has been both a relative and an absolute increase in the incidence of staphylococcal pneumonia in children. Guthrie and Montgomery[7] compared 2,300 consecutive necropsy records from the period 1926-1935 with 2,877 necropsy records from 1936-1945. In the former, only 3 cases of staphylococcal pneumonia were diagnosed, whereas in the latter, 55 cases were noted. Ladd and Swan[8] emphasized the high incidence of staphylococcal empyema in infancy in a report of 33 patients, 32 of whom were less than 1 year of age and 12 less than 4 months. Forbes[6] indicated the high incidence of staphylococcal empyema in infants when he stated that 91 per cent of all cases were due to the Staphylococcus. Disney,[4] in 1956, reported that of 530 infants less than 2 years of age admitted with lower respiratory infections, 6.5 per cent were found to have staphylococcal pneumonia. The apparent increase in the incidence of staphylococcal pneumonia is considered by most authors to be due to the combined influence of increased emphasis upon specific etiologic diagnosis and the decreased incidence of pneumococcal pulmonary disease. The increased use of antibiotics is not thought to be a significant factor.[9]

Staphylococcal pneumonia is primarily a disease of infants and is commonly transmitted to them by attending personnel. In one study,[12] nasal and pharyngeal cultures of 105 full term infants were made during the first 24 hours after birth. Routine precautions for the nursery of newborn infants were taken to minimize exposure. In spite of these measures, however, coagulase-positive Staphylococcus aureus was cultured from 9.5 per cent of these infants during the first day, 50 per cent after the second day, and 89 per cent between the fourth and eighth day. It is of interest to note that in another similar study,[2] there was a much lower incidence of cultures positive for Staphylococcus aureus in children born at home as compared to hospital deliveries. Vaginal and maternal nasal cultures show a relatively low frequency of Staphylococcus aureus, whereas house officers and nursing personnel often demonstrate extremely high staphylococcal carrier rates.[3, 5] Although the widespread use of antibiotics may not be a major factor in the incidence of staphylococcal pneumonia, there has been an alarming increase in the incidence of antibiotic-resistant strains. Spink[11] in 1944 reported that only 12 per cent of 68 strains of Staphylococcus aureus were resistant to penicillin. In the interim, there has been a progressive increase in the number of resistant strains until one study[13] in 1955 reported that in 55 cases of staphylococcal pneumonia in infants, 92 per cent of the strains were resistant to penicillin.

Typically, the patient with staphylococcal pneumonia presents with a history of antecedent upper respiratory disease and the rather precipitous onset of high fever, grunting respiration, cough, and occasionally cyanosis. The temperature elevation is in the range of 101 to 103 F., and the respiratory rate is in the range of 60 respirations per minute. The pulse rate, however, is often slow in proportion to the temperature elevation.[10] A rapid rate or a sudden increase in pulse rate should suggest complications such as pericarditis, pneumothorax, or massive pleural effusion. The sputum is usually yellow and odorless and commonly increases steadily in amount as the disease advances from the pneumonic to the abscess phase. The most characteristic physical findings are those typical of pulmonary consolidation or pleural

fluid. In the infant, however, the breath sounds may not be greatly altered and are frequently clearly heard through an area of empyema fluid. Mediastinal shift is common. Abdominal distention is a frequent finding and may cause increased respiratory distress through limitation of diaphragmatic excursion.

A significant laboratory finding is the fairly marked leukocytosis with increase in the percentage of polymorphonuclear neutrophils.

Roentgenographic examination demonstrates parenchymal infiltration which may be focal, segmental, or lobar. Due to the tendency of primary staphylococcal pneumonia to undergo bronchogenic spread, there may be simultaneous development of the disease process in one lobe and regression or healing in another. Abscess formation, when present, is usually multiple, the abscesses being closely clumped together and their cavities varying greatly in size. The presence of air and fluid in the pleural space of an infant should suggest immediately staphylococcal pneumonia as should the occurrence of nontraumatic pneumothorax. The pneumatocele appears to occur almost exclusively in infants and children and is thought to represent localized areas of obstructive emphysema. These areas of increased radiolucency were at one time thought to be congenital lung cysts, but careful observations concerning pathogenesis and clinical course suggest that the majority are pneumatoceles. Although these may persist for long periods, surgical removal is rarely indicated since the majority spontaneously disappear.[1] Perhaps the most characteristic roentgenographic observation is the rapidity with which the previously described alterations occur. A roentgenogram may reveal an area of homogeneous pneumonic infiltration on one day and a film on the next day, a pulmonary cavity with fluid level, a pyopneumothorax, or a pneumatocele.

Staphylococcal pneumonia may be primary or secondary. Primary cases are distinguished by direct bacterial invasion of the tracheobronchial tree, while secondary cases are designated as those in which pulmonary infection is metastatic from a nonrespiratory focus of staphylococcal infection. In either instance, sepsis, as evidenced by positive blood culture, may be demonstrable. The initial phase of the primary staphylococcal pneumonia is that of vascular congestion and hemorrhagic parenchymal infiltration. Forty-eight to 72 hours later early evidence of abscess formation may appear. This occurs most commonly in peripheral areas of the lung about the smaller bronchioles, and in some instances, confluence with large abscess cavities may follow. Necrotic extension of the abscesses through the pulmonary parenchyma may lead to bronchopleural fistula, empyema, or pyopneumothorax. The pathogenesis of the pneumatocele, the subpleural bleb, and the pneumothorax are closely related. It is postulated that a ball valve mechanism develops in a small respiratory passage allowing the entrance, but obstructing the exit of air from that respiratory segment. This leads to dilatation of the otherwise normal alveoli and bronchioles with the production of a pneumatocele. If the pressures are sufficient, the trapped air may dissect along the tissue planes to form subpleural collections of air. Rupture of the subpleural bleb produces the pneumothorax.

Penicillin resistant strains of Staphylococcus aureus are so frequently encountered that this antibiotic is no longer the drug of choice. The addition of chloramphenicol or streptomycin to the therapeutic regimen has proven to be of great value. In those patients whose prognosis is extremely poor or whose response to therapy is unsatisfactory, the use of parenteral bacitracin is frequently efficacious. Symptomatic measures in the management of these patients include the use of oxygen, digitalis, and parenteral fluids as indicated. Pleural fluid, when present, should be aspirated for both diagnostic and therapeutic purposes. The treatment of pneumothorax by either multiple thoracentesis or closed drainage must be individualized. Careful roentgenographic follow-up of the patient is essential since these findings may persist long after all evidences of pulmonary lesions by physical examination have disappeared.

The prognosis of staphylococcal pneumonia is determined by a number of factors. A relatively poor prognosis is associated with infancy, antecedent debilitating disease, high sustained fever curve, bacteremia, and leukopenia. Recent articles indicate that the present mortality rate for staphylococcal pneumonia is 14 to 23 per cent,[4, 13] but as noted by Wallman and others[13] the mortality rate is still about 50 per cent in the first month of life.

SUMMARY

Staphylococcal pneumonia is primarily a disease of infancy and is associated with a high mortality rate.

Other studies have shown that there has been an absolute as well as a relative increase in the incidence of staphylococcal pneumonia in recent years.

The course of 12 infants and children with primary staphylococcal pneumonia is reviewed, and 2 cases are described in detail to illustrate the clinical findings and the problems that may be anticipated.

Complications such as pneumatocele, pneumothorax, pleural effusions, and empyema are both common and serious problems associated with primary staphylococcal pneumonia.

The frequency of antibiotic resistant strains of Staphylococcus aureus makes it imperative that the etiologic agent be identified and that therapeutic agents be selected on the basis of in vitro sensitivity studies of the organism.

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Tetanus-Diphtheria Toxoid Said Safe for Adults

Adolescents and adults now can be immunized against diphtheria and tetanus without developing severe side reactions, according to the March 29 *Journal of the American Medical Association*. Three California doctors inoculated 62 adults with a new combined toxoid with favorable results.

The new serum, called Adult Dip-Tet, a combined tetanus and diphtheria toxoid, was prepared with specifications contained in the National Institutes of Health's minimum requirements. It has been used by the armed forces since 1955, but only recently has been available to physicians through normal distribution channels.

Diabetes Still a Problem

Although diabetes is still incurable, it is no longer the threat to life that it used to be, reports the Health Information Foundation.

Diabetes mortality hit its peak in 1940, when the death rate reached 26 per 100,000 persons, according to the foundation. Since then it has declined to approximately 16 per 100,000 population in 1957. Even so, according to the foundation, diabetes ranked eighth among the leading causes of death and was responsible for an estimated 27,000 deaths last year. Today diabetes is largely a disease of middle and old age.

CASE REPORTS

A Mild Form of Leptospirosis due To Leptospira Canicola

Report of 3 Cases In Children

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LEPTOSPIROSIS due to Leptospira canicola is usually considered a rare disease. However, during the past 10 years simplified diagnostic tests have afforded means of readily establishing an etiologic diagnosis. Each year there are increasing numbers of cases of canicola fever reported in the medical literature.

It is impossible to estimate the incidence of human leptospiral disease in Texas since it has been a reportable disease for only a few years and since its manifestations are so protean that it may go unrecognized.

An awareness of this disease will lead to a specific diagnosis in some fevers of unknown origin and in some instances of aseptic meningitis. The following report concerns 3 children with leptospirosis diagnosed in Houston during the past year who represent the mild febrile illness which is the most characteristic form of this type of leptospiral infection.

CASE REPORTS

CASE 1.—A 13 year old white boy was admitted to the hospital with a history of fever and vomiting of 7 days' duration. Twenty-four hours before admission he developed lethargy, headache, and inability to walk. Past history was noncontributory. He had no history of exposure to infectious diseases or of close contact with animals.

Physical examination revealed a thin, irritable, lethargic boy who seemed moderately ill. The temperature was 99.4 F., pulse rate 80, respiratory rate 20, blood pressure 118/60. He had injected conjunctivae, generalized weakness, and nuchal rigidity. There were numerous red macules on the legs and a few on the arms and trunk. Examination of the spinal fluid revealed 142 cells, 98 per cent lymphocytes, and 2 per cent segmented cells. The spinal fluid protein was 79 mg. per 100 cc. and the glucose was 59 mg. per 100 cc. Smears and cultures of the fluid were negative. The blood count showed hemoglobin, 13 Gm.; a white blood count, 8,500 per cubic millimeter; segmented cells, 71 per cent; bands, 5 per cent; lymphocytes, 14 per cent;

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Although leptospirosis is not common in Texas, circumstances for human infection exist, and milder forms may be misdiagnosed. Serodiagnostic tests help differentiate this condition from benign aseptic meningitis, infectious hepatitis, and fever of unknown origin. With no specific treatment for leptospirosis, prevention of infection in the animal host is the most practical approach. Three cases of mild infection from Leptospira canicola are reported.

eosinophils, 3 per cent; and monocytes, 7 per cent. The urine, serum bilirubin, and roentgenogram of the chest were normal. A diagnosis of aseptic meningitis was made on the basis of the spinal fluid findings. Leptospira canicola agglutination-lysis titers were as follows: negative, ninth day of illness; strongly positive, thirteenth day of illness; and positive in 1:10,000 dilution, seventeenth day of illness.*

The hospital course was uneventful. The patient was asymptomatic by the third hospital day, the tenth day of his illness, and was discharged on the eleventh hospital day. Observation of this patient over a period of 6 months revealed no sequelae.

CASE 2.—A 13 year old white boy was admitted to the hospital with a 3 day history of fever and pain in both thighs. Two days before admission he became unable to walk because of weakness and leg pain. Examination of the cerebrospinal fluid at this time was normal. During the 48 hours before admission the patient had chills and vomiting. Other members of the family were well, and there was no history of exposure to any infectious disease. The family owned a dog.

Admission physical examination revealed a moderately ill, lethargic, white boy. The temperature was 101.2 F., respiratory rate 24, blood pressure 118/70, pulse rate 94. There was a mild injection of the throat and a brownish postnasal discharge. There were no other abnormal physical findings.

Since this child presented a difficult diagnostic problem numerous laboratory tests were performed. Blood counts during his febrile illness showed a hemoglobin of 12 Gm., and white blood count varied from 3,500 to 12,000 per cubic millimeter. The segmented cells were relatively increased in all counts. Urinalysis showed mild albuminuria, microscopic hematuria, and many coarse granular casts for the first 3 hospital days. Thereafter the urine was normal.

The blood urea nitrogen was 64 mg. per 100 cc. on the fourth hospital day and became normal 8 days later. Serum bilirubin was normal. Several blood cultures were negative. Throat and stool cultures were not remarkable. Agglutinations for Salmonella typhosa, Salmonella paratyphi A and B, and Proteus OX 19 were negative on paired serums. A heterophile antibody test was negative. Agglutination-lysis tests for Leptospira canicola were positive in 1:1,280 dilution on the thirteenth day of illness and in 1:2,560 dilution on the sixteenth day of illness.

The patient's hospital course for the first 5 days was characterized by temperature elevations from 100 to 105 F. and mild mental confusion. During this time he continued to vomit and developed diarrhea and a skin rash. The skin lesions were of two types, a generalized morbilliform rash over the entire body and large erythema multiforme lesions varying from .5 to 3 cm. in diameter on all extremities. The fever, skin lesions, and the gastrointestinal symptoms subsided on the seventh hospital day, or the tenth day of illness. The patient was asymptomatic thereafter and was discharged on the twenty-fourth hospital day. This boy exhibited no sequelae during a 6 month follow-up period.

CASE 3.—A 5 year old Negro boy was well until 5 days prior to admission, when he suddenly became ill with fever, lethargy, weakness, headache, and pain in the neck, legs, and abdomen. The weakness and leg pain were so severe that the boy could not walk without assistance. On the fourth day of his illness he vomited blood streaked material on three occasions. Other members of the family were well, and there was no history of exposure to any infectious disease. The family owned a dog, chickens, and rabbits.

Physical examination revealed a moderately ill, lethargic, Negro boy. His temperature was 102 F., respiratory rate 36, pulse rate 100, blood pressure 118/80. The remainder of the physical examination, including neurological examination, was normal except for mild generalized lymphadenopathy.

Admission laboratory data were hemoglobin, 11 Gm.; white blood count 13,400 per cubic millimeter; segmented cells, 32 per cent; lymphocytes, 47 per cent; monocytes, 12 per cent; eosinophils, 9 per cent. Examination of the cerebrospinal fluid showed 47 cells; lymphocytes, 66 per cent, and segmented cells, 34 per cent. The spinal fluid sugar and protein were within normal limits. Smear and culture were negative. One week later the spinal fluid cell count had returned to normal. Serologic tests for lymphocytic choriomeningitis, mumps, eastern equine encephalitis, western equine encephalitis, and St. Louis encephalitis were negative. An agglutination test for Leptospira canicola performed 1 week after the onset of symptoms was positive in 1:640 dilution. Convalescent serum could not be obtained on this patient because he moved out of the city.

The child became asymptomatic on the second hospital day, the seventh day of his illness, and was discharged on the ninth hospital day.

DISCUSSION

A summary of the clinical findings in these 3 cases is presented in tables 1 and 2. The most striking manifestations in these patients were fever, extreme myalgia, gastrointestinal upset, and central nervous

Quantitative determinations were not performed on the first two samples.

system involvement. The myalgia in all 3 was most marked in the lower extremities. The signs of central nervous system involvement varied from nuchal rigidity to mental confusion. Two patients had skin lesions of maculopapular or morbilliform type. The hemorrhagic manifestations refer to hematemesis (case 3) and hematuria (case 2). One patient (case 2) had a short period of azotemia. None of these children was jaundiced, and bilirubin determinations

TABLE 1.—*Presenting Symptoms and Signs in Three Children with Leptospiral Infection.*

Symptoms or Signs	No. of Cases
Fever (100-105 F.)	3
Myalgia	3
Vomiting or diarrhea	3
Lethargy	3
Headache	2
Skin lesions	2
Mental confusion	1
Nuchal rigidity	1
Conjunctival injection	1
Lymphadenopathy	1

on 2 of them were within normal limits. Antibiotic therapy did not appear to alter the course of the disease, and the duration of illness was 7 days in 1 case and 10 days in the other 2. There were no sequelae in 2 patients, and there was no follow-up on the third. Two of the children had dogs for pets; however, the animals were not available for study.

Epidemiology.—Leptospira canicola was first identified as a causative agent in human disease by Klarenbeek and Schüffner[8] in Holland in 1933, and a few years later Meyer[10] reported the first cases in the United States. Since these initial reports canicola fever has been reported from almost every country in the world. As the name Leptospira canicola implies, the dog is the principal reservoir for the spirochete. There is a high carrier incidence of Leptospira canicola infection reported in dogs, based on high antibody titers in 15 to 40 per cent of dog populations analyzed.[5] Of these serologically positive dogs, 11 per cent are infective.[1] As in human disease, it is difficult to state accurately what percentage of the dog population of Texas is actively infected or is in

TABLE 2.—*Laboratory Data in 3 Cases of Mild Leptospiral Infection.*

Laboratory Data	No. of Cases
Abnormal spinal fluid cell count	2
Increased spinal fluid protein	1
Neutrophilia	2
Elevated blood urea nitrogen	1
Microscopic hematuria and cylinduria	1
Proteinuria	1
Positive agglutination titers for Leptospira canicola	3

a carrier state. Animal leptospirosis has been a reportable disease in Texas for several years. The Texas Animal Disease Report for December, 1956, showed 150 cases of leptospiroses in the dog for that month alone. At the end of 1956 the total number of reported cases in Texas was 1,901.[14] The report does not indicate the relative incidence of Leptospira canicola and Leptospira icterohemorrhagiae in these animals.

The organism is excreted in the urine of the infected dog during the disease and for as long as 6 months after the active disease.[3] Man acquires the infection by intimate contact with the animal host or by contact with damp soil or water contaminated with infected excreta. The only known route of human infection is through abrasions in the skin or through intact mucous membranes of the eye and nasopharynx.[4]

Clinical Picture.—The clinical picture of leptospirosis may vary from a mild 3 day febrile illness due to Leptospira pomona (swineherd's disease) to a severe overwhelming infection with fever, jaundice, hemorrhagic diathesis, hepatorenal failure, and vascular decompensation due to Leptospira icterohemorrhagiae (Weil's disease). The latter has been the more widely described clinical entity, and only recently have the milder forms been recognized. Infections due to one organism differ from infections due to another chiefly in the severity of symptoms.[11] This point is emphasized by Stroup describing "pretibial fever" due to Leptospira pomona.[13] This syndrome has been ascribed heretofore to Leptospira autumnalis. Because of this overlapping of symptomatology the clinical aspects will be discussed as those of mild leptospirosis rather than those considered to be specifically due to Leptospira canicola.

These illnesses have an incubation period of approximately 1 week and are characterized by an abrupt onset of fever, headache, myalgia, gastrointestinal disturbance, and conjunctival injection. Lymphadenopathy, hepatosplenomegaly, and skin lesions are less constant signs. There may also be lethargy, mental confusion, nuchal rigidity, or other symptoms and signs referable to the central nervous system. Beeson has emphasized the necessity of considering the Leptospirae as a possible etiologic agents in any case of benign aseptic meningitis.[2] Bronchopneumonia is a recognized complication of the disease and is considered to play a major role in the mortality rate of 0.8 per cent.[12]

The milder forms of leptospirosis are of short duration, and recovery without significant sequelae is the general rule. However, some patients experience a long convalescent period due to weakness, optic neuritis, or uveitis. The eye complications may occur as late sequelae.

Laboratory studies reveal a total white blood cell count which is normal or slightly increased with a

relative increase in neutrophilic elements. There is usually a 1 to 2 plus proteinuria, and sometimes red blood cells and casts are present in the urine. Altered renal function may be evidenced by a rise in the blood urea nitrogen for a period of approximately 3 days in the late febrile course of the illness. The serum bilirubin is usually not elevated since most of these cases are anicteric.

The differential diagnosis of leptospiral infections is often difficult. They may simulate sepsis, Salmonella infections, influenza, dengue fever, infectious hepatitis, nephritis, and aseptic meningitis.

Pathology.—The pathological lesions of leptospirosis are probably more closely related to the severity of the illness than to the strain of spirochete. Canicola fever is usually a mild to moderately severe illness; however, there are a few fatal cases reported.[9] In the fatal cases the autopsy findings are indistinguishable from those in severe disease due to Leptospira icterohemorrhagiae. These pathological lesions are well known and need no description here.

Pathological studies are incomplete in the milder forms. The only lesions described for the nonfatal cases are those revealed by muscle biopsy. Examination of the tissue shows degeneration of striated muscle fibers and localized hemorrhage into the muscle fibers early in the course of the disease. Regeneration occurs in later stages.

Diagnosis.—Diagnosis may be carried out by obtaining acute and convalescent serums and demonstrating a rise in antibody titer. The agglutination-lysis test* is considered the best for specificity, sensitivity, and length of recall. A titer of 1:300 or 1:400 is suggestive, and a fourfold rise is diagnostic of leptospiral infection. Antibody titers rise between the seventh and twenty-first day of illness, and as high as 86 per cent positive results have been obtained.[6]

Direct culture of blood should be made between the first and fourteenth day of illness on Fletcher's semisolid medium or Schüffner's modified Verwoort's semiliquid medium incubated in darkness at 30 C.[6] Examination of these cultures on the seventh, fourteenth, twenty-first, and twenty-eighth day by dark-field technique will reveal spirochetes, ⅓ micron in width by 10-50 microns in length. This procedure will demonstrate the organism in about 88 per cent of the cases.

The use of direct blood smear examination is generally condemned because of the confusion of the organism with fibrin threads. Animal inoculation is both expensive and impractical. Compared to direct culture it is only about 68 per cent positive.[6]

**The agglutination-lysis test for leptospiral infection may be obtained through the Texas State Department of Health or the Communicable Disease Center, Chamblee, Ga.*

Treatment.—There is no specific therapy for canicola fever or the other leptospiroses. Animal and in vitro studies with several antibiotics were promising, but carefully controlled clinical studies by Hall and others[7] using chlortetracycline, oxytetracycline, penicillin, streptomycin, and chloramphenicol suggest that these agents do not alter the course of the illness. Further search for a satisfactory therapeutic agent is indicated.

In the meantime, sound symptomatic measures should be employed for the control of fever, myalgia, and bronchopneumonia. In the severe cases supportive care may be lifesaving during the period of hepatorenal failure. The diagnosis is usually made late in the course of the disease so that prevention of infection is perhaps a more logical approach than search for a curative drug. Since the disease is sporadic in its occurrence in man it is practical to approach the problem of prophylaxis by measures to eliminate the organism in the dog. Vaccines against Leptospira canicola, Leptospira icterohemorrhagiae, and Leptospira pomona are now available commercially for veterinary use.[15]

SUMMARY

Three cases of mild leptospiral infection due to Leptospira canicola, presenting as aseptic meningitis in 2 and fever of unknown origin in the third, are described. The clinical picture in all 3 was characterized by fever, myalgia, and gastrointestinal symptoms. Leptospiral disease due to Leptospira canicola is not considered a common disease in Texas, but the circumstances exist for human infection since leptospiral disease in the dog is frequently reported in this area. The milder forms of human leptospirosis may be misdiagnosed because of their variable symptomatology. Serodiagnostic tests for this disease are generally available, and emphasis should be placed on their use in the differential diagnosis of benign aseptic meningitis, infectious hepatitis, and fever of unknown origin. There is no specific treatment for leptospirosis. Prevention of leptospiral infection in the animal host offers the most practical approach to the problem in man.

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13. Stroup, J. G., and Riley, H. D., Jr.: Pretibial Fever Due to Leptospira Pomona; Report of Two Cases in Siblings, J. Pediat. 50: 716-720 (June) 1957.
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♦ Drs. Yow and Megarity, Department of Pediatrics, Baylor University College of Medicine, Houston.

MEDICAL NEWS

★ Coming Meetings

Texas Medical Association, San Antonio, April 18-21, 1959 (Executive Council, Sept. 7, 1959). Dr. Howard O. Smith, Pres.; Mr. C. Lincoln Williston, 1801 North Lamar Blvd., Austin, Executive Secy.

American Medical Association, San Francisco, June 23-27, 1958. Dr. David B. Allman, Atlantic City, Pres.; Dr. George F. Lull, 535 North Dearborn, Chicago 10, Secy.

Current Meetings

MAY

American Association for Thoracic Surgery, Boston, May 16-18, 1958. Dr. Brian Blades, Washington, D. C., Pres.; Dr. Hiram T. Langston, 600 S. Kingshighway, St. Louis 10, Mo., Secy.

American Gastro-Enterological Association, Washington, D. C., May 30-31, 1958. Dr. F. J. Ingelfinger, 65 E. Newton, Boston 18, Secy.

American Gynecological Society, Asheville, N. C., May 19-21, 1958. Dr. Howard C. Taylor, Jr., New York City, Pres.; Dr. A. A. Marchetti, 3800 Reservoir Rd., N.W., Washington 7, D. C., Secy.

American Laryngological, Rhinological, and Otological Society, San Francisco, May 21-23, 1958. No 1957 meeting. Dr. Lawrence R. Boies, Minneapolis, Pres.; Dr. C. S. Nash, 277 Alexander, Rochester 7, N. Y., Secy.

American Ophthalmological Society, White Sulphur Springs, W. Va., May 28-30, 1958. Dr. Walter S. Atkinson, Watertown, N. Y., Pres.; Dr. M. C. Wheeler, 30 W. 59th, New York 19, Secy.

American Pediatric Society, Atlantic City, N. J., May 8-9, 1958. Dr. A. Ashley Weech, Cincinnati, Pres.; Dr. A. C. McGuinness, Room 1036, 2800 Quebec St., N.W., Washington 8, D. C., Secy.

American Psychiatric Association, San Francisco, May 12-16, 1958. Dr. Harry C. Solomon, Boston 15, Pres.; Dr. William Malamud, 80 E. Concord, Boston 18, Secy.

National Tuberculosis Association, Philadelphia, May 18-23, 1958. Dr. William M. Morgan, New York, Pres.; Mrs. Wallace B. White, 1790 Broadway, New York 19, Secy.

Texas Hospital Association, Dallas, May 5-8, 1958. Bolton Boone, D.D., Dallas, Pres.; Mr. O. Ray Hurst, Executive Director, 2208 Main, Dallas, Secy.

JUNE

American College of Chest Physicians, San Francisco, June 18-22, 1958. Dr. Burgess L. Gordon, Philadelphia, Pres.; Mr. Murray Kornfeld, 112 E. Chestnut, Chicago 11, Executive Secy.

American Dermatological Association, Sun Valley, June 4-8, 1958. Dr. Clark W. Finnerud, Chicago, Pres.; Dr. Hamilton Montgomery, 200 1st, S.W., Rochester, Minn., Secy.

American Neurological Association, Atlantic City, June 16-18, 1958. Dr. Israel S. Wechsler, New York, Pres.; Dr. Charles Rupp, 133 S. 36th, Philadelphia 4, Secy.

American Orthopedic Association, Hot Springs, Va., June 24-27, 1958. Dr. George O. Eaton, Baltimore, Pres.; Dr. Harold A. Safield, 715 Lake St., Oak Park, Ill.

American Proctologic Society, Los Angeles, June 29-July 3, 1958. Dr. Julius E. Linn, Birmingham, Pres.; Dr. Norman D. Nigro, 10 Peterboro, Detroit 1, Secy.

National and Regional

American Academy of Allergy. Dr. William B. Sherman, New York, Pres.; Dr. Francis C. Lowell, 65 E. Newton, Boston, Secy.

American Academy of Dermatology and Syphilology, Chicago, Dec. 6-11, 1958. Dr. E. R. Seale, Houston, Pres.; Dr. R. R. Kierland, Mayo Clinic, Rochester, Minn., Secy.

American Academy of General Practice, San Francisco, April 6-9, 1959. Dr. Holland T. Jackson, Fort Worth, Pres.; Mr. Mac F. Cahal, Volker Blvd. at Brookside, Kansas City 12, Executive Secy.

American Academy of Obstetricians and Gynecologists. Dr. R. Gordon Douglas, New York, Pres.; Dr. John C. Ullery, Ohio State University Hospital, Columbus, Secy.

American Academy of Ophthalmology and Otolaryngology, Chicago, Oct. 12-17, 1958. Dr. Leroy A. Schall, Boston, Pres.; Dr. W. L. Benedict, 15 Second St. S.W., Rochester, Minn., Secy.

American Academy of Pediatrics. Dr. Stewart H. Clifford, Brookline, Mass., Pres.; Dr. E. H. Christopherson, 1801 Hinman Ave., Evanston, Ill., Secy.

American Association for Maternal and Infant Health, 1960. Mr. Howard I. Wells, Jr., 116 S. Michigan Ave., Chicago 3, Executive Secy.

American Association of Genito-Urinary Surgeons. Dr. George F. Cahill, New York, Pres.; Dr. W. J. Engel, 2 East 54th, New York 22, Secy.

American Association of Obstetricians and Gynecologists. Dr. William F. Mengert, Chicago, Pres.; Dr. E. Stewart Taylor, University of Colorado School of Medicine, 4200 E. 9th, Denver, Secy.

American Cancer Society, New York, Oct. 29-31, 1958. Dr. L. T. Coggeshall, Chicago, Pres.; M. R. Runyon, 521 W. 57th, New York, Executive Vice-Pres.

American College of Allergists. Dr. Oval R. Withers, Kansas City, Pres.; Dr. Giles A. Koelsche, Mayo Clinic, Rochester, Minn., Secy.

American College of Gastroenterology, New Orleans, Oct. 20-28, 1958. Dr. C. Wilmer Wirts, Philadelphia, Pres.; Mr. Daniel Weiss, 33 West 60th, New York 23, Executive Director.

American College of Physicians. Dr. Richard A. Kern, Philadelphia, Pres.; Mr. E. R. Loveland, 4200 Pine, Philadelphia 4, Secy.

American College of Radiology. Dr. Vincent M. Archer, Charlottsville, Va., Pres.; Mr. W. C. Stronach, 20 N. Wacker Dr., Chicago 6, Executive Director.

American College of Surgeons, Chicago, Oct. 6-10, 1958. Dr. William L. Estes, Bethlehem, Pa., Pres.; Dr. Michael L. Mason, 40 E. Erie, Chicago 11, Secy.

American Congress of Physical Medicine and Rehabilitation, Philadelphia, Aug. 24-29, 1958. Dr. Donald L. Rose, Kansas City, Kan., Pres.; Dorothea C. Augustin, 30 N. Michigan Ave., Chicago, Executive Secretary.

American Heart Association, San Francisco, Oct. 24-28, 1958. Dr. Robert W. Wilkins, New York, Pres.; Mr. John D. Brundage, 44 E. 23rd, New York 10, Secy.

American Hospital Association, Chicago, Aug. 18-21, 1958. Mr. Tol Terrell, San Angelo, Pres.; Dr. Edwin L. Crosby, 18 E. Division, Chicago 10, Executive Director.

American Public Health Association, St. Louis, Oct. 27-31, 1958. Roy J. Morton, Oak Ridge, Tenn., Pres.; Dr. Berwyn F. Mattison, 1790 Broadway, New York 19, Executive Secy.

American Society of Anesthesiologists, Pittsburgh, Pa., Oct. 19-24, 1958. Dr. Ralph S. Sappenfield, Miami, Pres.; Dr. J. E. Remlinger, Jr., 188 W. Randolph, Chicago 1, Secy.

American Society of Clinical Pathologists, Chicago, Nov. 1-8, 1958. Dr. Harry P. Smith, New York, Pres.; Dr. Clyde G. Culbertson, 1040 W. Michigan, Indianapolis 7, Secy.

American Surgical Association. Dr. John H. Mulholland, New York, Pres.; Dr. William Altemeier, Christian R. Holmes Hospital 19, Cincinnati, Secy.

American Urological Association. Dr. William J. Baker, Chicago, Pres.; Dr. Samuel L. Raines, 188 S. Bellevue Blvd., Memphis, Tenn., Secy.

Association of American Physicians and Surgeons, Interim Meeting, Chicago, Oct. 10-11, 1958. Dr. Mal Rumph, Fort Worth, Pres.; Mr. Harry E. Northam, 185 N. Wabash Ave., Chicago 1, Executive Secy.

International College of Surgeons, U. S. Chapter. Dr. Curtice Rosser, Dallas, Pres.; Dr. Karl Meyer, 1516 Lake Shore Dr., Chicago, Secy.

Radiological Society of North America, Chicago, Nov. 16-21, 1958. Dr. Leo G. Rigler, Los Angeles, Pres.; Dr. Donald S. Childs, 713 E. Genesee, Syracuse 2, N. Y., Secy.

Southern Medical Association, New Orleans, Nov. 3-6, 1958. Dr. W. Kelly West, Oklahoma City, Pres.; Mr. V. O. Foster, 1020 Empire Bldg., Birmingham 3, Secy.

Southern Surgical Association, Boca Raton, Fla., Dec. 9-11, 1958. Dr. James D. Rives, New Orleans, Pres.; Dr. George G. Finney, 2947 St. Paul, Baltimore 18, Secy.

Southern Psychiatric Association, Tennessee, October, 1958. Dr. Frank Luton, Nashville, Pres.; Dr. Iverson O. Brownell, Greenville, S. C., Secy.

Southwest Allergy Forum, Houston, 1959. Dr. Homer E. Prince, 808 Carolina, Houston, Pres. and Secy.

Southwest Regional Cancer Conference, Fort Worth, September, 1958. Dr. O. J. Wollenman, Jr., Fort Worth, Chm.; Mrs. Ira Frances Ball, 264 W. 11th, Fort Worth, Secy.

Southwestern Medical Association, Tucson, Ariz., Oct. 23-25, 1958. Dr. Louis G. Jekel, Phoenix, Pres.; Dr. Russell L. Deter, 1501 Arizona, El Paso, Secy.

Southwestern Society of Nuclear Medicine. Dr. Jack G. S. Maxfield, Dallas, Pres.; Dr. J. R. Maxfield, Jr., 311 Medical Arts Bldg., Dallas, Secy.

Southwestern Surgical Congress. Dr. Kenneth C. Sawyer, Denver, Pres.; Dr. C. M. O'Leary, 207 Plaza Court Bldg., Oklahoma City, Secy.

Tri-State Medical Assembly, Shreveport, Sept. 18, 1958. Dr. James Gatline, Camden, Ark., Pres.; Dr. Jason Sanders, Sanders Clinic, Kings Highway, Shreveport, La., Secy.

United States-Mexico Border Public Health Association. Malcolm H. Merrill, Berkeley, Calif., Pres.; Dr. Sidney B. Clark, 243 U. S. Court House, El Paso, Secy.

State

Private Clinics and Hospitals Association of Texas, Dallas, Dec. 14-15, 1958. Dr. Joe Shepperd, Burnet, Pres.; Mr. Henry E. Taylor, Medical Arts Building, Dallas, Executive Secy.

Texas Academy of General Practice, San Antonio, Sept. 22-24, 1958. Dr. G. W. Cleveland, Austin, Pres.; Mr. Donald C. Jackson, 1905 N. Lamar, Austin, Executive Secy.

Texas Academy of Internal Medicine, Galveston, Dec. 6-7, 1958. Dr. A. W. Harris, Dallas, Pres.; Dr. Hugo T. Engelhardt, 1216 Main, Houston, Secy. Meetings restricted to members.

Texas Air-Medics Association, San Antonio, April, 1959. Dr. R. Henry Harrison, Bryan, Pres.; Dr. C. F. Miller, P. O. Box 1338, Waco, Secy.

Texas Association of Blood Banks, Austin, February, 1959. Dr. Louis J. Manhoff, Jr., San Antonio, Pres.; L. Ruth Guy, Ph.D., 725 Doctors Building, Temple.

Texas Association for Mental Health. Dr. Virginia Love, Houston, Pres.; Mr. John Lane, 2510 San Antonio, Austin, Executive Director.

Texas Association of Obstetricians and Gynecologists, Fort Worth, February, 1959. Dr. Jesson L. Stowe, El Paso, Pres.; Dr. Oran V. Prejean, 4317 Oak Lawn, Dallas, Secy.

Texas Chapter, American Association of Public Health Physicians, San Antonio, April, 1959. Dr. David M. Cowgill, San Benito, Pres.; Dr. B. M. Primer, 2709 Rio Grande, Austin.

Texas Chapter, American College of Chest Physicians, San Antonio, April, 1959. Dr. J. O. Armstrong, Dallas, Pres.; Dr. Carlos J. Quintanilla, Box 592, Harlingen, Secy.

Texas Club of Internists. Dr. D. D. Warren, Waco, Pres.; Dr. L. C. Carter, 2600 Procter, Port Arthur, Secy.

Texas Dermatological Society, San Antonio, April, 1959. Dr. Charles D. Stewart, Corpus Christi, Pres.; Dr. E. N. Walsh, 1310 Medical Arts Bldg., Fort Worth, Secy.

Texas Diabetes Association, San Antonio, April, 1959. Dr. Merton Minter, San Antonio, Pres.; Dr. Warren W. Moorman, 901 W. Leuda, Fort Worth, Secy.

Texas Division, American Cancer Society, Austin, Dec. 4, 1958. Dr. J. Layton Cochran, San Antonio, Pres.; Mr. Curt W. Reimann, 5014 Bull Creek Rd., Austin 3, Executive Director.

Texas Geriatrics Society, San Antonio, April, 1959. Dr. Frederick G. Dorsey, Houston, Pres.; Dr. J. A. Armstrong, 3810 Swiss Ave., Dallas, Secy.

Texas Heart Association, San Antonio, April, 1959. Dr. William B. Adamson, Abilene, Pres.; Mr. Arville Tolbert, 404 Jesse H. Jones Library Bldg., Texas Medical Center, Houston 25, Executive Director.

Texas Industrial Medical Association, San Antonio, April, 1959. Dr. Wendell H. Hamrick, Houston, Pres.; Dr. Robert A. Wise, Box 2180, Houston, Secy.

Texas Neurophychiatric Association, San Antonio, April, 1959. Dr. Samuel R. Snodgrass, Galveston, Pres.; Dr. Clarence S. Hoekstra, 8215 Westchester Drive, Dallas, Secy.

Texas Ophthalmological Association, San Antonio, April, 1959. Dr. Harold Beasley, Fort Worth, Pres.; Dr. James Scruggs, 2223 Austin, Waco, Secy.

Texas Orthopedic Association, San Antonio, April, 1959. Dr. Louis J. Levy, Fort Worth, Pres.; Dr. Margaret Watkins, 3503 Fairmount, Dallas, Secy.

Texas Pediatric Society, Fort Worth, Oct. 17-18, 1958. Dr. T. J. McElhenney, Austin, Pres.; Dr. James N. Walker, 5216 W. Freeway, Fort Worth, Secy.

Texas Physical Medicine and Rehabilitation Society, San Antonio, April, 1959. Dr. Vann S. Taylor, Dallas, Pres.; Dr. Lewis A. Leavitt, Veterans Administration Hospital, Houston, Secy.

Texas Proctologic Society, 1959. Dr. Hugh Beaton, Fort Worth, Pres.; Dr. C. P. Hardwicke, 920 E. 32nd, Austin, Secy.

Texas Public Health Association. Mr. J. N. Murphy, Jr., Austin, Pres.; Mr. Wayne Garrett, City Health Department, Fort Worth, Executive Secy.

Texas Radiological Society, Dallas, Jan. 30-31, 1959. Dr. R. F. Wertz, Amarillo, Pres.; Dr. J. E. Miller, 6407 Forest Lane, Dallas 30, Secy.

Texas Rheumatism Association. Dr. W. W. Bondurant, San Antonio, Pres.; Dr. Morris Horn, 3707 Gaston, Dallas, Secy.

Texas Society of Anesthesiologists, San Antonio, April, 1959. Dr. M. M. Rosenzweig, San Antonio, Pres.; Dr. Randle J. Brady, 3317 Binz, Houston, Secy.

Texas Society of Athletic Team Physicians, San Antonio, April, 1959. Dr. Edward T. Smith, Houston, Pres.; Dr. Jack Brannon, 2715 Fannin, Houston, Secy.

Texas Society of Gastroenterologists and Proctologists, San Antonio, April, 1959. Dr. O. P. Griffin, 800 5th Avenue, Fort Worth, Pres.

Texas Society of Ophthalmology and Otolaryngology, Houston, Dec. 5-6, 1958. Dr. Owen R. O'Neill, Paris, Pres.; Dr. Edwin G. Grafton, 4319 Oak Lawn, Dallas, Secy.

Texas Society of Pathologists, San Antonio, April, 1959. Dr. John H. Childers, Galveston, Pres.; Dr. Marvin H. Grossman, Box 57, Dallas, Secy.

Texas Society of Plastic Surgeons, San Antonio, April, 1959. Dr. Baron Hardy, Houston, Pres.; Dr. Raymond Brauer, 6615 Travis, Houston, Secy.

Texas Surgical Society, San Antonio, April, 1959. Dr. J. Peyton Barnes, Houston, Pres.; Dr. G. V. Brindley, Jr., Scott and White Clinic, Temple, Secy.

Texas Traumatic Surgical Society, San Antonio, April, 1959. Dr. Russell Holt, El Paso, Pres.; Dr. W. E. Crump, 1300 Eighth, Wichita Falls, Secy.

Texas Tuberculosis Association. Dr. Howard T. Barkley, Houston, Pres.; Miss Pansy Nichols, P. O. Box 6158, Austin 21, Executive Director.

Texas Urological Society, San Antonio, January, 1959. Dr. Charles Hooks, Galveston, Pres.; Dr. Charles Hulse, 636 Moore Building, San Antonio.

District

First District Society. Dr. W. A. Jones, El Paso, Pres.; Dr. E. S. Crossett, 309 Medical Arts Bldg., El Paso, Secy.

Second District Society, Lamesa. Dr. J. Vernon McKay, Lamesa, Pres.; Dr. Noble L. Rumbo, Box D, O'Donnell, Secy.

Third District Society. Dr. William Klingensmith, Amarillo, Pres.; Dr. H. Fred Johnson, 2308 W. Eighth, Amarillo, Secy.

Fourth District Society, San Angelo, 1958. Dr. Fred D. Spencer, Brownwood, Pres.; Dr. W. Lacey Smith, 111 E. Harris, San Angelo, Secy.

Fifth and Sixth Districts Society, Corpus Christi, 1958. Dr. Foy Moody, Corpus Christi, Pres.; Dr. Thelma Frank, 129 Rainbow Lane, Corpus Christi, Secy.

Seventh District Society. Dr. Robert N. Snider, Austin, Pres.; Dr. Richard Lucas, 502 W. 13, Austin, Secy.

Eighth District Society, Galveston, October, 1958. Dr. John H. Childers, Galveston, Pres.; Dr. M. Warren Hardwick, 839 E. Mulberry, Angleton, Secy.

Ninth District Society, Conroe. Dr. Eugene M. Addison, Huntsville, Pres.; Dr. James H. Sammons, Highlands, Secy.

Tenth District Society. Dr. B. F. Pace, Beaumont, Pres.; Dr. W. J. Poshataske, Silsbee, Secy.
Eleventh District Society. Dr. George M. Hilliard, Jacksonville, Pres.; Dr. Phillip W. Taylor, 833 S. Beckham, Tyler, Secy.
Twelfth District Society. Dr. George C. Bryant, Waco, Pres.; Dr. J. T. Archer, Jr., Meridian, Secy.
Thirteenth District Society. Dr. Roy Wilson, Seymour, Pres.; Dr. R. D. Moreton, 1217 W. Cannon, Fort Worth, Secy.
Fifteenth District Society. Dr. Charles Wise, Naples, Pres.; Dr. George Bennett, 402 S. Bolivar, Marshall, Secy.

Clinics

Blackford Memorial Cancer Lectures. Dr. R. G. Gerard, 509 S. Mirick, Denison, Chm.
Dallas Southern Clinical Society. Dr. C. D. Bussey, Dallas, Pres.; Executive Offices, 433 Medical Arts Bldg., Dallas 1.
International Medical Assembly of Southwest Texas, San Antonio, January, 1959. Dr. Lawrence B. Reppert, 817 South Texas Bldg., San Antonio, Secy; S. E. Cockrell, 202 W. French Place, San Antonio, Exec. Secy.
New Orleans Graduate Medical Assembly, New Orleans, March 2-5, 1959. Dr. Eugene H. Countiss, New Orleans, Pres.; Dr. Maurice E. St. Martin, 1430 Tulane Ave., New Orleans 12, Secy.
North Texas-Southern Oklahoma Fall Clinical Conference, Wichita Falls, Oct. 18, 1958. Dr. J. B. Hathorn, Jr., 1500 8th, Wichita Falls, Chm.
Oklahoma City Clinical Society Conference, Oklahoma City, Oct. 27-29, 1958. Dr. Herman Fagin, Oklahoma City, Pres.; Miss Alma F. O'Donnell, 503 Medical Arts Bldg., Oklahoma City 2, Executive Secy.
Postgraduate Medical Assembly of South Texas, Houston, July 21-23, 1958. Dr. Charles D. Reece, Pres.; Dr. C. Forrest Jorns, Secy., Exec. Office, 412 Jesse Jones Library Bldg., Houston 25.
State Tumor Conference. Dr. Edwin C. Bebb, 500 Broad St., Wichita Falls, Director.

Board Examinations

Texas State Board of Examiners in Basic Sciences. Henry B. Hardt, Ph.D., Fort Worth, Pres.; Mrs. Betty J. Radliff, Chief Clerk, 303 East Seventh, Austin.
Texas State Board of Medical Examiners, Fort Worth, June 23-25. Dr. M. H. Crabb, 1714 Medical Arts Bldg., Fort Worth, Secy; Miss Luanna Knox, Assistant Secy.

MEDICOLEGAL NOTES

Temporary Hospitalization for Observation and/or Treatment

Additional questions relating to the recently passed Mental Health Code and their answers follow. The series was begun in the April issue of the *Journal*.

What steps are necessary before a person can be committed for temporary hospitalization for observation and/or treatment?

It is necessary that a sworn application for temporary hospitalization be filed with the county court of the county in which the proposed patient resides or is found. This application may be made by any adult person or by the county judge. It is necessary that such application state, upon information and belief, that the proposed patient is not charged with a criminal offense, that he is mentally ill, and that for his own welfare and protection, or the protection of others, such patient requires observation or treatment in a mental hospital.

What role does a physician play before a hearing can be had on the application?

It is necessary that a certificate of medical examination for mental illness be filed with the county court by two physicians who have examined the patient within 5 days of the filing of the certificate, each stating that the patient is mentally ill and requires observation and/or treatment in a mental hospital.

If there are no certificates filed with the application, then what happens?

The county judge appoints the physicians, one of whom shall be a psychiatrist, if available in the county, to examine the patient and file the certificates. The judge may order the patient to submit to the examination.

The county judge sets a hearing date within 14 days of the filing of the application with the patient personally served with a copy of the application and notice of the time set for the hearing. An attorney ad litem is appointed by the county judge in the event there is no attorney representing the proposed patient. What happens if there are no certificates of medical examination on file with the application?

The county judge shall dismiss the application and order the immediate release of the patient if he is not at liberty.

Where and in what manner is the hearing upon the application held?

The hearing on the application may be held at any suitable place within the county, and the Mental Health Code provides that it should be held in a setting not likely to have a harmful effect on the mental condition of the patient, in the event he is present. The proposed patient is not required to be present at the hearing, but he shall have the right to be present if he desires. The hearing is held in an informal manner, and the court can exclude all persons not having a legitimate interest in the proceedings. These hearings may be held before the court without a jury unless a jury is demanded by the proposed patient or by the court.

Is it necessary that the physicians signing the certificates of medical examination for mental illness be present and testify?

If at the hearing no one opposes temporary hospitalization of the proposed patient, the court may make its finding upon the basis of such certificates, and it would not be necessary that the physicians be present.

What happens if the court finds that the proposed patient is not mentally ill?

If such a decision is reached, the court enters an order denying the application and orders the immediate release of the proposed patient if he is not already at liberty.

What happens in the event the court finds that the patient is mentally ill and requires observation or treatment?

The court shall order that the mentally ill person be committed as a patient for observation and/or treatment in a mental hospital for a period not exceeding 90 days.

—PHILIP R. OVERTON, LL.B., Austin.

EDUCATION

Postgraduate Courses

Washington University School of Medicine, St. Louis, May 24-25.—Second annual postgraduate course in geriatric medicine with special emphasis on heart disease and the psychosocial problems of later life will be offered. Inquiries may be made through the Division of Gerontology, Washington University School of Medicine, 5600 Arsenal, St. Louis 9.

University of Colorado Medical Center, Denver, June 16-21, July 10-12.—A postgraduate course for internists and pathologists on clinical hematology will be held June 16-21. It will be limited to 12 persons at the fee of $100. A course on dermatology for general practitioners, sponsored by the division of dermatology of the Department of Medi-

cine of the University of Colorado School of Medicine, will be taught July 10-12. Emphasis will be placed on practical management which can be carried out in the home, office, or hospital. The fee is $30.

Further information may be obtained from the University of Colorado Medical Center, Office of Postgraduate Medical Education, 4200 East Ninth Avenue, Denver 20.

New York University Post-Graduate Medical School, New York.—"The Physiological Basis of Clinical Electrocardiography" will be offered June 2-6, and designed for physicians interested in the fundamentals of clinical electrocardiography interpretation. Tuition is $75. "Modern Methods in the Recognition and Treatment of Heart Disease" will be given June 23-25; "Symposium on Modern Therapeutics in Internal Medicine," June 9-20; "The Management of Chronic Kidney Diseases," June 23-24; "Acute Neurological Problems of General Practice," June 23-27; and "The Management of Hypertension," June 25-26. Additional information may be obtained from the Associate Dean, NYU Post-Graduate Medical School, 550 First Avenue, New York 16.

University of Texas Medical Branch

Members of the faculty of the University of Texas Medical Branch, Galveston, who presented an invitation seminar at the University of Nuevo Leon in Monterrey, Mexico, recently included Dr. Sam R. Snodgrass, Dr. William L. Marr, Dr. Walter Klingman, Dr. Martin L. Towler, and Dr. John L. Otto.

Professor Jean Brachet of the University of Brussels spoke on "Biochemistry and the Cell Nucleus," to students at the medical branch, March 18.

S. I. Auerbach of the Atomic Energy Commission spoke on "Ecological Studies and Radioactive Waste Disposal" April 2.

Baylor University College of Medicine

A group of science writers—American, Soviet, Japanese, French, and British—invited by the American Cancer Society to tour leading research centers coast to coast were in Houston early in April interviewing members of the Baylor University College of Medicine faculty.

Dr. Joseph L. Melnick, chief of the virology section, Division of Biological Standards of the National Institutes of Health, will become professor of virology and epidemiology and chairman of the Department of Epidemiology at Baylor University College of Medicine July 1. The Department of Public Health and Preventive Medicine will be reorganized into the Department of Epidemiology at that time.

Grants for Mental Hospital Staffs

The Southern Regional Education Board has received a grant which will enable staff members of state hospitals in the south to travel to hospitals in any part of the country to study an unusual treatment method or the administrative and training program. The grant was made by the National Institute of Mental Health for 1958-1960.

Grants to hospital staff members will not be fixed and will be made according to the need in each case but not to exceed $500. Applications must be made to the board through the head administrator of the applicant's hospital.

MEDICAL MEETINGS

Two Civil Defense Programs Will Be Held After AMA Meeting

Two medical civil defense meetings will be held in San Francisco immediately preceding the American Medical Association's annual meeting.

The twelfth Naval District will sponsor a symposium on "Medical Problems of Modern Warfare and Civil Defense" June 19-20 at the United States Naval Radiological Defense Laboratory. On June 21, the AMA's Council on National Defense will sponsor its sixth annual National Medical Civil Defense Conference in Chicago.

The current federal civil defense program, including the national plan for mobilization of resources will be outlined at the conference. All physicians interested in civil defense planning are urged to attend.

Nuclear Medicine Meeting

The Southwestern Society of Nuclear Medicine held its third annual meeting April 12-13 at the Baker Hotel in Dallas.

Among those participating in panel discussions or giving presentations were Drs. V. P. Collins and G. T. Teng, both of Baylor University College of Medicine, Houston; Joseph Goldzieher, Southwest Research Institute, San Antonio; Frederick J. Bonte and Richard Sparr, both of Southwestern Medical School, Dallas; Herbert C. Allen, Jr., Methodist Hospital, Houston; and William Neal, Tom Bond Radiological Group, Fort Worth.

Also Drs. William Levin, University of Texas Medical Branch, Galveston; Jack B. Trunnell, Jeffery Chang, Beatrice Dennis, G. H. Fletcher, and Raymond G. Rose, all of M. D. Anderson Hospital, Houston; G. K. Arney, Brooke Army Medical Center, Fort Sam Houston; R. J. Speer, J. M. Hill, and A. D. Denton, all of Wadley Blood Center, Dallas; J. E. Miller and Richard E. Collier, both of Baylor Hospital, Dallas; and H. F Hurd, Brooke Army Hospital, Fort Sam Houston.

Drs. J. R. Maxfield, Jr., Dallas; and Earl F. Beard, A. E. Leiser, and Mavis P. Kelsey, all of Houston, also participated.

Southwestern Surgical Congress

The Southwestern Surgical Congress met March 31-April 2 at the Shamrock Hilton Hotel in Houston. The program included 4 guest speakers and 20 presentations of scientific papers.

Texas doctors presenting papers included Drs. A. O. Singleton, Jr. and John B. Lynch, Galveston, "Idiopathic Esophageal Varices"; William J. Hills, San Antonio, "The Treatment of Tetanus"; E. Rush Crews, San Antonio, "Interesting Aspects in the Treatment of Burns"; and Charles P. Donoho, Dallas, "The Use of Anticholinergic Drugs for Benign Breast Diseases."

Guest speakers were Drs. Ralph F. Bowers, Memphis, who presented "Surgical Therapy for Chronic Pancreatitis"; Oscar V. Batson, Philadelphia, "The Surgical Anatomy of the Hands"; George Crile, Jr., Cleveland, "Some Problems in the Treatment of Cancer"; and James Nolan, Los Angeles, "Carcinoma of the Vulva."

Doctors Visit Rehabilitation Foundation

Texas doctors will attend the tenth annual Conference of Southwest Foundations in San Antonio April 10-11. Gonzales Warm Springs Rehabilitation Foundation and Southwest Foundation for Research and Education will be co-host for the meeting. Made up of philanthropic and service foundations, the conference is concerned with problems and programs of philanthropy and management.

Participating on programs during the conference will be Dr. Lee R. Clark, Jr., Houston; Dr. Philip O. Montgomery, Jr., Dallas; and Dr. Odon F. von Werssowetz, Gonzales.

Atomic Energy Conference

The first annual Texas Conference on the Utilization of Atomic Energy was held March 31-April 2 at Texas Agricultural and Mechanical College, College Station. The program included the following subjects: "Nuclear Reactors," "Isotopes and Their Use," "Nuclear Waste Disposal," "Petroleum Industry Applications of Atomic Energy," and "Nuclear Education."

Dr. Herbert Allen, Houston, and Dr. J. R. Maxfield, Jr., Dallas, participated in the conference.

OF GENERAL INTEREST

Personals

Dr. E. B. Evans, assistant professor of orthopedic surgery at the University of Texas Medical Branch, Galveston, was on the program of the American Orthopedic Society's February meeting in New York.

Dr. Hugh E. Wilson, assistant professor of surgery and chairman of the division of cardiac and thoracic surgery at the University of Texas Southwestern Medical School, Dallas, has been named one of the five outstanding young men of Texas for 1957 by the Texas Junior Chamber of Commerce.

Dr. William L. Wilson, director of the division of occupational health of the State Department of Health, Austin, presented a paper at the thirteenth National Industrial Health Conference held in Atlantic City, April 19-25.

Recent births in the families of Texas physicians and their wives include: a girl to *Dr. and Mrs. John M. Pickett,* Amarillo; a son to *Dr. and Mrs. Robert E. Hill,* Baytown; and a daughter to *Dr. and Mrs. S. V. Yeakel,* Amarillo.

Dr. John T. Martin of Dallas has been appointed to the staff of the Mayo Clinic, Rochester, Minn., as a consultant in anesthesiology.

Dr. Michael Pescor, medical director of the Department of Health, Education, and Welfare's regional office in Dallas, will become medical director of the Denver office July 1. *Dr. Richard Boyd,* now medical director of the department's regional offices in New York City, will assume Dr. Pescor's position in the Dallas office.

Dr. Ben Primer, Austin city health officer, in April completed 20 years with the United States Infantry. At the time of his retirement and for almost 10 years, he had been surgeon for the Ninetieth Infantry Division, Army Reserve, holding the rank of colonel.

Dr. William L. Wilson, Austin, presented a paper on "Public Health Experiences with Economic Poisons in Texas" at the thirteenth National Industrial Health Conference of Governmental Industrial Hygienists, held in Atlantic City, April 19-25.

Dr. Donald L. Paulson, Dallas, spoke at the 1958 annual meeting of the Louisiana State Medical Society, May 6, in Shreveport.

Fourth Poliomyelitis Shot Not Necessary; Three Recommended

Fourth shots for poliomyelitis inoculation are not necessary, the polio advisory committee to Surgeon General Leroy Burney of the United States Public Health Service, agreed in Washington March 21. Representatives of the American Medical Association, American Academy of Pediatrics, National Foundation for Infantile Paralysis, public health departments, and others pointed out, however, that individual physicians may decide to issue fourth shots when local outbreaks occur or when a patient is traveling to a place where the poliomyelitis incidence is high. In such cases, the fourth shot need not be given sooner than a year after the third injection.

In announcing the recommendation on the number of injections advisable at present, the American Medical Association's Committee on Poliomyelitis called attention also to a promotional campaign planned by the Advertising Council to encourage vaccination against poliomyelitis before the season for the disease arrives. There are still 48,500,000 Americans who need to start their Salk vaccine series, it was noted.

The Public Health Service continues to urge all persons under 40 years of age to be vaccinated and puts special emphasis on the under 5 age group.

Preliminary figures compiled by the Public Health Service's Communicable Disease Center on paralytic polio attack rates during 1957 indicate a substantially higher rate among children under 5 than in other susceptible age groups.

Rusk Hospital Holds Open House

Rusk State Hospital held an open house May 2 and 3 with the purpose of better acquainting the people with the hospital's program of treatment and services rendered the mentally ill patient. Visitors were given guided tours of the hospital to see the operation and changes in physical surroundings during the past year, which include the renovation of five wards, a new organ in the chapel, a new hobby shop, a beauty shop in one ward, and the establishment of a vocational rehabilitation service.

Ministers in the East Texas and Gulf Coast area attended a pastoral clinic on May 1, entitled, "A Pastor's Clinic on Mental Illness," with the purpose of studying the role of ministers in their work with disturbed people in the community. The program, which has been held for the last 3 years, covered the areas of "Community Resources in Mental Health," "Causes and Symptoms of Mental Illness," and "Pastoral Psychology."

Texans Are College of Radiology Councilors

Four Texas doctors were elected councilors of the American College of Radiology at its recent thirty-fifth annual meeting. They are Dr. Glenn D. Carlson, Dallas; Dr. R. P. O'Bannon, Fort Worth; Dr. Dean B. Jones, San Antonio; and Dr. Walter J. Stork, Houston.

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Sulfamethazine	0.167 gm.	0.5 gram (7.7 grains)
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Sulfamerazine	0.167 gm.	
Emulsified vegetable oil	50%	Approx. 500 calories per 100 cc.
Sucrose U. S. P.	12.5%	

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INDICATIONS:
Systemic and urinary tract infections due to streptococci, staphylococci, pneumococci, H. influenzae, K. pneumoniae, meningococci, E. coli, B. proteus, B. pyocyaneus, A. aerogenes, B. paracolon and Alcaligenes fecalis.

DOSAGE:

Children	teaspoonfuls every 12 hours
20 lbs	1
40 lbs	1½
60 lbs	2
80 lbs	3
Adults	4

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Unprecedented Low Dosage. Less sulfa for the kidney to cope with . . . yet fully effective. A single daily dose of 0.5 to 1.0 Gm. (1 to 2 tablets) maintains higher plasma levels than 4 to 6 Gm. daily of other sulfonamides —a notable asset in prolonged therapy. [2]

New Control Over Sulfonamide-sensitive Organisms. KYNEX maintains the prolonged, high tissue concentrations of primary importance in treatment of urinary infections . . . a therapeutic asset toward preventing manifest pyelonephritis as a complication of persistent bacteriuria during pregnancy and puerperium. Maintenance of sterile urine in such patients was accomplished with 1 tablet of KYNEX daily. [3]

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Dosage: The recommended adult dose is 1 Gm. (2 tablets) the first day, followed by 0.5 Gm. (1 tablet) every day thereafter, or 1 Gm. every other day for mild to moderate infections. In severe infections where prompt, high blood levels are indicated, the initial dose should be 2 Gm. followed by 0.5 Gm. every 24 hours. Dosage in children, according to weight; i.e., a 40 lb. child should receive ¼ of the adult dosage. It is recommended that these dosages not be exceeded.

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Tablets: Each tablet contains 0.5 Gm. (7½ grains) of sulfamethoxypyridazine. Bottles of 24 and 100 tablets.

Syrup: Each teaspoonful (5 cc.) of caramel-flavored syrup contains 250 mg. of sulfamethoxypyridazine. Bottle of 4 fl. oz.

References: 1. Grieble, H. C. and Jackson, G. G.: Prolonged Treatment of Urinary-Tract Infections with Sulfamethoxypyridazine. *New England J. Med.* 258:1-7, 1958. 2. Editorial *New England J. Med.* 258:48-49,1958. 3. Jones, W. F., Jr. and Finland, M., Sulfamethoxypyridazine and Sulfachloropyridazine. *Ann. New York Acad. Sc.* 60:473-483, 1957.

*Reg. U. S. Pat. Off.

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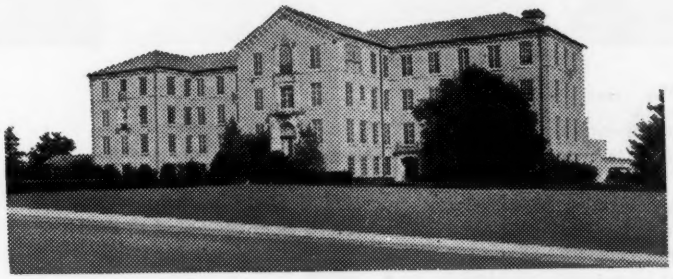
James K. Peden, M.D., Associate Psychiatrist
Ward G. Dixon, M.D., Associate Psychiatrist
Jerry M. Lewis, M.D., Associate Psychiatrist
C. L. Jackson, M.D., Associate Psychiatrist
LeeOwen S. Buford, M.D., Associate Psychiatrist
Albert F. Riedel, Jr., M.D., Resident Psychiatrist
Belvin A. Simmons, M.D., Resident Psychiatrist
E. Clay Griffith, M.D., Resident Psychiatrist

Frances Campbell, R.N., B.S., Director of Nurses
Donald Bertoch, M.S., Clinical Psychologist
Charles J. Black, M.A., Clinical Psychologist
Bill M. Turnage, M.S., Director of Social Service
Lois Timmins, Ph.D., Director of Recreational Therapy
Geraldine Skinner, B.S., O.T.R., Director of Occupational Therapy
Ralph M. Barnette, Jr., Business Manager



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Paramedical Groups—Members of the Medical Team

The doctor of yesterday not only gave each patient the benefit of his specialized skills, but he also had to see to the endless details required in the care of a patient from the moment he first entered the doctor's consulting room to the time he was dismissed. In most instances, the doctor worked alone except for the occasional help of his wife or a member of the patient's family—having responsibility for the many time-consuming details necessary in the giving of adequate patient care. Today's doctor no longer works alone—he is captain of the medical team which gives each patient the best service possible. Our society has grown so complex and medical knowledge so extensive that the doctor of today can do his job best by devoting all his time to giving the patient the benefit of his specialized training. He frequently relies on trained assistants to implement many responsibilities of his practice.

These assistants, who years ago usually required only the training received in an apprenticeship under a doctor, now have intensified the amount of service they can render the medical profession by the establishment of programs requiring college or specialized college-level training and are recognized as professionals or near professionals. With the growth of medicine, however, the need for these trained assistants has exceeded the supply, with the result that practically every paramedical field has a shortage of personnel. These various paramedical groups have organized, forming professional societies which try to recruit personnel and strengthen the prestige and standards of the particular group they serve.

The work done by six of these ancillary medical groups and their particular organizations will show to what extent some of these groups have gone to establish themselves as a necessary part of the medical team.

Medical Assistants

Encompassing the entire paramedical field is the Texas Medical Assistants Association, the organization which opens its membership to any person who has been employed for as long as 1 year as a medical assistant by any member of the Texas Medical Association, by the Veterans Administration, by a general or military hospital, by a medical laboratory, or by an institution where the professional staff is composed of members of the Texas Medical Association. Secretaries, receptionists, bookkeepers, nurses, technicians of various kinds—all are welcome.

This association, which held its first meeting in February, 1957, organized to encourage in all counties in Texas the formation and coordination of local medical assistants societies, the aim of which would be to hold meetings for individual and collective educational advantages by having lectures, demonstrations, discussions, instruction, and study. Mrs. Juanita Ainsworth of Dallas, who has been instrumental in organizing the group, states that the association strives to work closely with the medical profession in improving medical service and medical public relations.

Medical Record Librarians

Medical record librarians assist the physician in evaluating the quality of medical care, in preparing statistical reports, in the planning of data for special studies, in tabulating information and preparing tables, charts, or graphs, and in stimulating research by calling attention to unusual findings listed in records.

This group is organized under the Texas Association of Medical Record Librarians with Miss Mary Catherine Stubbs of the University of Texas Medical Branch in Galveston as its president. Mrs. Mabel M. Crouch of Lufkin is the association's past president.

Educational requirements for this group, as set up by the American Medical Association in the three schools of medical record librarians in Texas, are 2 years of college or a diploma from an approved school of professional nursing followed by a 1 year hospital course in medical record library science.

The Joint Commission on Accreditation of Hospitals, in requiring the maintenance of a records department in the hospitals it accredits, states that such records serve as a basis for planning patient care, provide a means of communication between the physician and other professional groups contributing to the patient's care, and furnish documentary evidence of the course of the patient's illness and treatment.

Medical Technologists

Serving medical technologists in Texas is the Texas Society of Medical Technologists, a professional society which provides means of continuing studies in medical technology and seeks improvement in working conditions and standards in that field. The Texas society is a member of the American Society of Medical Technologists.

The profession of medical technology came into being shortly after World War I. Even with the few laboratory tests known at that time, physicians began to recognize the need for developing trained personnel to take over the time consuming duties of performing these tests. The American Society of Clinical Pathologists, therefore, set up a Board of Registry to set minimum educational standards and certify laboratory personnel to assist the physician in his diagnosis.

Mrs. Mary Louise Mitchell, medical technologist of El Paso and immediate past president of the Texas society, lists a minimum of 2 years of college plus 12 months in schools of medical technology which are connected with hospitals, in affiliation with a college or medical school, and which have been approved by the American Medical Association, as the educational requirements in becoming a registered medical technologist.

Of the 650 approved schools of medical technology in the United States, 31 are in Texas. Most of these schools require students to pay only cost of maintenance. The Texas society, like other societies throughout the country, provides scholarships as an additional aid to students interested in the field. There are nearly 24,000 registered medical technologists in the United States today. It is estimated that 50,000 qualified laboratory workers will be needed by 1960.

Occupational Therapists

Occupational therapists, who are represented by the Texas Occupational Therapy Association, help the handicapped acquire job skills, using creative, educational, and recreational activities.

Mrs. Rena C. Worthington, director of the School of Occupational Therapy at Texas Woman's University, Denton, illustrates the shortage of occupational therapists by the need found in the Texas State Hospital System. According to the standards of registered occupational therapists, Mrs. Worthington says, 60 per cent of the 23,000 patients found in the hospital system would benefit by occupational therapy treatment. It is estimated that this 60 per cent, or 13,800 patients, would require 138 therapists if a standard of 100 patients per therapists was followed. There are, at present, less than a dozen registered therapists in the system.

Educational requirements previous to taking the national registration examination given by the American Occupational Therapy Association include 4 years of college training leading to a degree of bachelor of science in occupational therapy plus an additional clinical affiliation period of 10 months. There are two schools of occupational therapy in Texas approved by the American Medical Association.

Physical Therapists

Physical therapy employes manual and other physical devices according to the prescription of a physician in the treatment of patients. Common procedures and treatment applications include hot packs, manual muscle testing, special exercises, and instruction in the use and care of braces.

The field of physical therapy, points out Capt. Rachel H. Adams, physical therapy instructor at the Army Medical Service School at Fort Sam Houston, grew to professional stature following the impressive results obtained from such therapy in treating the injured in both war and industry during World War II and the Korean conflict. The wide recognition given to the problems of the chronically ill and the severely disabled, continues Capt. Adams, and the medical problems related to old age and the increase of this age group in the general population also have contributed to the growth of the field.

Two types of scholastic programs, set up by the American Medical Association in cooperation with the American Physical Therapy Association, are available at the 4 approved schools of physical therapy in Texas. The degree program, or 4 years of college, includes theory and practice of physical therapy procedures and supervised clinical practice in hospitals and other centers. The certificate program includes 12 to 18 months of concentrated physical therapy professional education courses for college graduates who meet specific admission requirements in biological, physical, and social sciences.

Physical therapists may affiliate with the American Physical Therapy Association, which has a membership of approximately 8,000. The Texas Chapter has an active membership of 372. Its primary concern currently is attaining legal status for qualified physical therapists in the state of Texas. Twenty-seven of the 48 states now have licensure laws in effect and several others are working toward this goal. Therapists may also register with the American Registry of Physical Therapists.

Social Workers

A complex society with a greater stress on mental hygiene and a greater number of tensions is an excellent working ground for the medical social worker, whose chief role is to help troubled people whose lives have been damaged by illness. The training for such a role includes 4 years of college with a major in a social or biological science, plus an additional 2 years of postgraduate study in medical or psychiatric social work leading to a master's degree. Postgraduate work includes classroom and supervised field work in a hospital or a clinic. The two schools of social work in Texas are approved by the Council on Social Work Education.

Miss Rosalind Giles, director of the Division of Child Welfare for the State Department of Public Welfare, states that effective in 1959, accreditation of specializations within schools of social work will be abandoned. The profession recognizes, says Miss Giles, that basic professional education should be required rather than training or preparation for a particular job within the field.

Texas has no provisions for licensing, certification, or registration for social workers. Texas social workers affiliate with a number of organizations the objectives of which are to better welfare practices. One such group, the Texas Social Welfare Association, with a membership including among others, doctors, nurses, teachers, bankers, social workers, lawyers, clergymen, and businessmen, enables groups and individuals to meet and plan cooperatively to improve welfare services. The association has 1,315 individual members and 127 organizational members. Membership in the National Association of Social Workers is available to those who have been graduated from an accredited school of social work or who are currently enrolled as full time students.

It is estimated that there will be 1,000 more social work positions to staff in Texas in 1960 than the 3,000 which existed in 1955.

In addition to these paramedical groups are the x-ray technicians, the licensed vocational and graduate registered nurses, the pharmacists, the dieticians, and countless other careerists who follow a profession which in toto evolved to assist the medical profession or in part was modified to be of special use in service to sick people. Together, each using his particular skills and techniques, the medical team headed by today's doctor of medicine gives the patient more complete and better care than yesterday's doctor could imagine.

DRUG NOTES

Antifungal Agent, Tranquilizers, Diuretic Among New Drugs

ONYCHO-PHYTEX (Wynlit) is an antifungal agent. Each milliliter contains borotannic complex 75 mg., salicylic acid 8 mg., ethyl alcohol, and ethyl acetate. It is for use in onychomycosis.

Salicylic acid in varying strengths has been used for many years in combating local fungal infections; likewise, solutions of salicylic acid in alcohol. Salicylic acid has been combined with benzoic acid, boric acid, thymol, chlorothymol, phenol, resorcinol monoacetate, and many other similar agents.

This tannic acid combination, however, is a new one. The Borotannic complex is said to be derived from 46 mg. of tannic acid and 29 mg. of boric acid and is said to have three actions: (1) Lowers the hydrogen ion concentration to about pH 2 (boric acid solution alone is about pH 5). Low pH is unfavorable for certain fungi. (2) "Tans" the fungi; tannins precipitate protein in general. (3) Prevents excessive skin moisture in the area treated.

The ethyl acetate enhances penetration and promotes evaporation, leaving a film of the medication at the site of the application.

Here too, as in the case with anthelmintics in which no agent can be truly effective without concurrent hygienic care, the correct use of the medication is at least as important as the medication itself.

The accompanying literature rightly emphasizes the need for proper utilization, including proper debridement, careful application, and persistent twice daily treatment. Such applications should be continued for several weeks after all signs of the infection have disappeared. Healthy new nail growth may take several weeks, and cure may take several months.

It is supplied in a 30 ml. size, the retail price of which is about $4.75 to $5.

SOFTRAN (Stuart) is a tranquilizer. Each soft tablet contains buclizine HCl, 1-(4-chlorbenzhydryl)-4-(para-tert.-butylbenzyl)-diethylenediamine, 50 mg. to be used for mild

to moderate anxiety tension states and is said to be essentially devoid of toxic side reactions. The softab formulation promotes rapid absorption and does not require water for swallowing.

Dose: 1 tablet with or before breakfast with 2 in the afternoon, up to 1 three times a day (orange flavor).

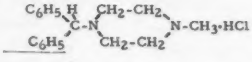
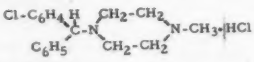
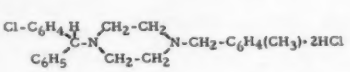
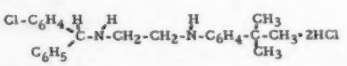
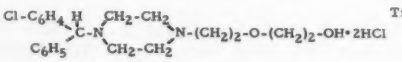
Supplied: 100's, retail about 12 or 13 cents each.

Buclizine is one of the active ingredients of the antinausea preparation Bucladin (Stuart). Bucladin contains Buclizine HCl, pyridoxine, scopolamine, atropine, and hyoscyamine.

Table 1 will help to relate Buclizine among other familiar agents.

It is to be pointed out that this slight molecular change could give a distinct change in the activity. However, no direct comparisons of Flexin with Paraflex were given in the literature surveyed, and since the references cited were either "personal communications" or "to be published," further comparisons must be deferred. It appears that whereas Flexin produces a mild muscle relaxant action without marked interference with normal function, Paraflex is three to five times stronger and produces an "effective" reduction of muscle spasm with relief of pain and increased mobility. Paraflex need not necessarily be taken at meal times because of its decreased side effects.

TABLE 1.—*Antihistamine Type Derivatives* (compiled from American Drug Index, 1958).

Trade Name	Generic Name	Formula	Principal Use
MAREZINE (B&W) Combination: Maredox (B&W)	Cyclizine		Antinauseant--no drowsiness except in high dosage
PERAZIL (B&W) DIPARALENE (Abbott) Combinations: Diparalene-Calamine Cream (Abbott) Tronolen Lotion (Abbott)	Chlorcyclizine		Antihistamine--infrequent drowsiness
BONAMINE (Pfizer) MECLIZINE (B&W) Combinations: Bonadettes (Pfizer) Antivert (Roerig) Bonadoxin (Roerig)	Meclizine		Antinauseant--mild, prolonged antihistamine. May cause drowsiness.
SOFTRAN (Stuart) VIBAZINE (Pfizer) Combination: Bucladin (Stuart)	Buclizine		Tranquilizer
ATARAX (Roerig) Combinations: Cartrax (Roerig) Ataraxoid (Pfizer)	Hydroxyzine HCl		Tranquilizer

PARAFLEX (McNeil) is a skeletal muscle relaxant, available in 250 mg. scored tablets containing chlorzoxazone (5-chlorobenzoxazolinone). Paraflex is particularly useful to relieve muscle spasm and pain associated with a wide variety of arthritic, traumatic, and orthopedic disorders. Its action is said to be unsurpassed in effectiveness, to be rapid in action with therapeutic blood levels for 6 hours, and especially suited to long-term therapy. There are no known contraindications, no cumulative action, nor habituation, and side effects are rare. Occasional side effects may manifest themselves in the form of gastrointestinal upset and can appear as heartburn, nausea, diarrhea, or constipation. Central nervous system effects may include dizziness, drowsiness, lightheadedness, overstimulation, headache, lethargy, or malaise.

Adult dosage: 1, 2, or 3 tablets three or four times a day according to severity of symptoms; reduce as improvement occurs.

Children: ½ to 2 tablets three or four times a day depending on age and weight.

It is to be noted that chlorzoxazone (Paraflex) is an analog of Zoxazolamine (Flexin—McNeil). The essential structural difference is the exchange of the C-NH_2 group of Flexin for C=O in Paraflex. Although this change does give a new compound which is basically unrelated to any other except Flexin, the new structural unit built into the new Paraflex is really a cyclic carbamate. The straight carbamate structure is present in certain other known muscle relaxants such as Tolseram (Squibb) and Robaxin (Robbins) and in the ataraxic, Equanil (Wyeth) or Miltown (Wallace).

DAQUIN (Riker), an orally effective, nonmercurial diuretic, comes in scored tablets of 150 mg. of chlorozanil, 2-amino-4-(p. chloroanilino)-s-triazine HCl. It is indicated in edema due to congestive heart failure, toxemia of pregnancy, renal disease, hepatic cirrhosis, and premenstrual tensions.

Suggested dosage: initially 150 mg. twice daily, upon arising and 4 to 6 hours later. Beneficial effects have been reported with doses as low as 50 mg. daily.

Chlorazanil has been used in Europe for several years and is reported safe and effective. It is suggested that some of the effects of chlorazanil may be due to blocking or inhibiting action on certain steroid hormones involved in fluid balance and metabolism, resulting in reductions in sodium and water reabsorption by the renal tubule.

Bicarbonate excretion is increased while urinary pH, potassium, ammonium, and phosphate are not markedly altered. Serum electrolyte levels are not affected. No tolerance was noted after 4 months of continuous therapy. Clinical investigation involving 506 patients gave excellent results with 13 per cent, good in 67, fair in 10, and poor in 10.

SUVREN (Ayerst), a tranquilizer, contains 50 mg. or 100 mg. per capsule of captodiamine HCl (p-butylmercaptobenzhydryl-beta-dimethylaminoethylsulfide HCl) to be used as a nonhypnotic stabilizer in the management of mild anxiety and tension.

Suvren is said to calm without drowsiness, tranquilize without depression. Its action is "aggregate, not immediate,

sometimes having a lag of five to ten days." Drug dependence is absent and self-medication is discouraged.

Suvren is indicated in emotionally conditioned disorders such as spastic colon, mucous colitis, nervous diarrhea, psychogenic asthma, mild anxiety, and tension; for hyperactive children suffering from brain damage and in predictable anxiety states; as an adjunct to chlorpromazine (Thorazine).

Initial dose: Adults: 100 mg. three times a day with meals and at bedtime. Children: 50 mg. three times a day with meals and at bedtime.

An occasional metallic or bitter taste can be controlled by reducing the dosage and taking the medication with meals.

Recent literature comments concerning the use of tranquilizers have been critical in that in many instances these drugs are being misused. Tranquilizers should be used only in dosages sufficiently high to bring anxieties and tensions down to normal levels. In many instances, sedation and mild depression have been obtained. Suvren implements the concept of moderation in the management of emotional and behavioral problems.

Suvren is essentially an antihistamine type drug. The benzhydryl structure is common to many of the anti-motion sickness antihistamines—cyclizine (Marezine—B & W), dimenhydrinate (Dramamine—Searle). The beta-dimethylaminoethyl portion is found in many common antihistamines while sulfur is present in the similarly constructed phenothiazine portion as in Thorazine (SKF).

—HERBERT SCHWARTZ, M.S., Austin.

Health Hazards of Industry Said to Occur at Universities

A large university campus has all the health hazards one finds in industry, and in many cases some which have not as yet reached the industrial stage, said G. S. Michaelsen, associate professor of the School of Public Health at the University of Minnesota, told a meeting of occupational health specialists at Atlantic City in April.

Mr. Michaelsen said that although a number of institutions have programs of teaching occupational health, few have operating programs in this field to minimize the hazards to their staff and students. He called upon official occupational health agencies to help the heads of colleges and universities to recognize the existence of these occupational health hazards and to make practical recommendations for their control.

Hospital Assets Reach $13,000,000

The nation's investment in hospital resources is at an all time high, Health Information Foundation reports. In its monthly statistical bulletin, *Progress in Health Services,* in March the foundation stated that the total value of hospital buildings, equipment, and other assets today stands at approximately $13,000,000—the investment being 3 times that of 30 years ago.

The current figure breaks down to $8,100 per hospital bed, $590 per patient admitted to a hospital during the year, and $78 per person in the United States, according to the foundation.

"Most recognized sources indicate that there is a large deficit of beds for the care of patients with mental and chronic illness. Furthermore a recent survey by the American Hospital Association reports a need for an additional $1,000,000 to rehabilitate existing hospital buildings," said foundation president, George Bugbee.

Gifts to the Library

Mrs. H. E. Chandler, Mt. Vernon, 20 books.

Dr. Milton V. Davis, Dallas, surgical reprint collection.

Dr. Lawrence E. Hamilton, Rogers, 100 journals and 26 books.

Dr. Henry L. Hilgartner, Austin, 25 journals, 18 pamphlets and reprints.

Dr. Maurice Jacobs, Austin, 11 journals.

Dr. Sam N. Key, Jr., Austin, 19 journals.

Dr. Morris Polsky, Austin, 113 journals.

Dr. Lee F. Scarborough, Austin, 50 books.

Dr. Nelson L. Schiller, Austin, 17 journals, 9 reprints and pamphlets.

Dr. Lorraine I. Stengl, El Campo, 49 journals.

The Library of the American Medical Association has presented the Memorial Library with complete files of 1948 journals. This collection consists of 215 titles.

★ Books

Books Newly Acquired

Davey, T. H.: *Blacklock and Southwell's A Guide to Human Parasitology,* ed. 6, Baltimore, Williams and Wilkins, 1958.

Hoch, Paul H., and Zubin, Joseph: *Psychopathology of Communication,* New York, Grune and Stratton, 1958.

Lindsay, John R.: *Year Book of the Ear, Nose, and Throat and Maxillofacial Surgery,* Chicago, Year Book Publishers, 1958.

Lowen, Alexander: *Physical Dynamics of Character Structure,* New York, Grune and Stratton, 1958.

Morris, John McLean, and Scully, Robert E.: *Endocrine Pathology of the Ovary,* St. Louis, C. V. Mosby, 1958.

Penrose, Lionel S.: *Biology of Mental Defects,* London, Sidgwick and Jackson, 1954 (revised).

Stroud, William D., and Stroud, Morris W.: *Diagnosis and Treatment of Cardiovascular Diseases,* ed. 5, Philadelphia, F. A. Davis, 1957.

Wain, Harry: *The Story Behind the Word,* Springfield, Ill., Charles C Thomas, 1958.

Book Notes

Vegetable Oils in Nutrition, With Special Reference to Unsaturated Fatty Acids

DOROTHY M. RATHMANN, Ph.D., Multiple Fellowship of Corn Products Refining Company, Mellon Institute, Pittsburgh, Pa. 70 pages. 17 Battery Place, New York 4, Corn Products Refining Company, 1957.

Dermatologic Formulary

New York Skin and Cancer Unit, Service of Dermatology. DR. MARION B. SULZBERGER, Director; FRANCES PASCHER, M.D., Ed. Revised, 1957. 172 pages. $4. New York, Paul B. Hoeber, Inc., 1957.

The Chronically Ill

JOSEPH FOX, Ph.D. 229 pages. $3.95. New York, Philosophical Library, 1957.

This book is a sociological approach to the problem of the chronically ill. It is presented by the author with the hope that it will evoke in others a kindred awareness of the problem and the goals we should strive for to master chronic disease.

Dr. Fox is executive director of the Home for the Chronic Sick in Irvington, N. J., a position which he has held for the past 10 years. Formerly he was director of the Home for the Aged in Newark, N. J. He is particularly well experienced with all phases of the problems and presents a guide and encouragement in the rehabilitation programs outlined.

ORGANIZATION

ECTION

★ Texas Medical Association

Houston Annual Session Breaks Attendance Record

A crowd of 3,426 set a new attendance record at the ninety-first annual session of the Texas Medical Association in Houston, April 19-22. A total of 1,920 members attended the scientific program which included talks by 25 guest speakers from all parts of the nation. Making up the convention were specialty group meetings, refresher courses, general meetings, scientific section programs, scientific and technical exhibits, and motion pictures, in addition to business, social, and sports activities.

New Association Officials

Dr. Howard O. Smith, Marlin, succeeded Dr. Denton Kerr, Houston, as president of the Association; Mrs. John D. Gleckler, took over as President of the Auxiliary to succeed Mrs. H. S. Renshaw, Fort Worth. Dr. Franklin W. Yeager, Corpus Christi, was named President-Elect of the Association and Dr. C. E. Willingham, Tyler, Vice-President. Mrs. Haskell D. Hatfield, El Paso, became President-Elect of the Auxiliary. Those reelected to positions include Dr. C. P. Hardwicke, Austin, Speaker of the House of Delegates; Dr. James D. Murphy, Fort Worth, Vice-Speaker of the House; and Dr. Byron P. York, Houston, member of the Board of Trustees.

Councilors whose term of office expired with the 1958 session were reelected with the exception of Dr. Willingham, who was succeeded by Dr. R. H. Bell, Palestine, in District 11. Resigning after his elevation to the president-elect, Dr. Yeager was succeeded by Dr. Stanley W. Bohmfalk, Weslaco, as Councilor of District 6 upon appointment by Dr. Smith. Dr. G. W. Cleveland, Austin, was elected as delegate, succeeding Dr. L. C. Heare, Port Arthur. Newly elected alternate delegates are Dr. E. P. Hall, Fort Worth, succeeding Dr. L. H. Reeves, Fort Worth, and Dr. Kerr to replace Dr. Cleveland. All other delegates and alternates were reelected. New members elected to the various councils are Dr. R. G. Baker, Fort Worth, Council on Medical Defense; Dr. M. H. Crabb, Fort Worth, Council on Medical Education and Hospitals; and Dr. Wickliffe R. Curtis, El Paso, Council on Constitution and By-Laws.

Dr. William P. Ball, Cleburne, was elected by the House as General Practitioner of the Year.

Medicare and Medical Education

The House of Delegates went on record in opposition to federal intervention into private medical care by terminating the role of the Association as a contracting agency for the Medicare program.

The decision, however, will have no effect upon medical services to military dependents, with the Medicare program continuing in Texas with the Army as fiscal agent to compensate physicians for services rendered; any Texas doctor who wishes may participate. As preferred alternatives to the Medicare legislation, delegates favored a program of voluntary prepayment health insurance or of raising salaries of military personnel to help cover medical expenses.

San Antonio was favored last year as a site for a proposed new medical school, and this action was reiterated this year by the House, despite an invitation from Austin that it be considered for such a school. A survey to determine present and future needs for physicians and medical facilities in the state so as to decide what additional medical schools may be required was approved by the House.

Although the House voted against a compulsory assessment to raise funds for support of the American Medical Education Foundation, there was sound approval of the principle of contributing generously to medical school needs. Mrs. H. S. Renshaw, president of the Woman's Auxiliary, told the House that the Auxiliary had raised in excess of $11,000 for AMEF in the year just ending, to add to sums raised by the Association committee. Members of the House pledged $3,225 during the session, $1,335 of it new contributions.

Important to Texas medicine throughout the years and still faithful in attendance at annual sessions were members of (1) the Past Presidents Association and (2) the Fifty Year Club and (3) Dr. J. B. Cummins of Fort Worth, 99 years young.

decided to continue the present requirement for both new and transfer members but with the program to be called "orientation" rather than "indoctrination."

Revision of Constitution

The Council on Constitution and By-Laws, recognizing that the addition of new committees, some with duties overlapping already existing committees, has resulted in a cumbersome and inefficient structure for the Association, recommended study and revision of the Constitution and By-Laws. The House approved such revision, which will be worked out by a committee consisting of top Association officials.

A By-Law amendment was approved to eliminate appointees to the Texas Commission on Patient Care as an independent unit, but rather to select them from the standing Committee on Patient Care. Also, the Committee for Study of Health Costs will become a standing subcommittee of the Council on Medical Economics, following suitable changes in the By-Laws.

Additional amendments to the Constitution and By-Laws on which definitive action was taken included: (1) payment of membership dues in the state organization will be delinquent after April 1 each year, (2) the office of vice-president will be retained but preferably with specific duties to be delegated by the President, (3) scientific sections will not have specific representation in the House of Delegates, (4) the board of censors of a county medical society will handle problems relating to intraprofessional grievances while a grievance committee will continue to handle complaints from outside the society membership, (5) the Committee for Liaison with the State Bar of Texas, authorized last year to become a standing committee, was moved formally into this category and encouraged to proceed with its efforts to increase harmony between the medical and legal professions.

The House again considered the advisability of requiring transfer members to take the indoctrination program and

Special Activities

The Board of Trustees announced that regulations for administering the Sam E. Thompson Scholarship Fund have been made with the cooperation of the executive director of the University of Texas Medical Branch. Approximately $40,000 will be available July 1 for loan to medical students at the Medical Branch as a result of the bequest of Dr. Thompson of assets totaling more than $500,000.

Among other actions taken by the House of Delegates were the approval of plans for a low cost life insurance coverage for members of the Association, the reports of the establishment during the past year of a group accidental death and dismemberment policy for members, and the recommendation that high school students be encouraged to take a behind the wheel driver training course before their graduation. The House also urged free choice of physician in workmen's compensation insurance cases and in cases involving care of braceros. It expressed opposition to compulsory inclusion of physicians under social security and to the Forand bill, but approval of the Jenkins-Keogh measure now before Congress.

Scientific Exhibit Awards

Awards for scientific exhibits at the session were given in three divisions. First place in the "individual" division was won by Drs. Robert R. Shaw, Donald L. Paulson, and John L. Kee, Dallas, for their exhibit entitled, "Mucoid Impaction of the Bronchi"; second place by Drs. Ralph Munslow, Richard Price, Robert C. Hardy, Francis E. O'Neal, Alvin Thaggard, Jr., and Jerone J. Wiesner, San Antonio, "Cerebral Angiography—Its Diagnostic Value"; and honorable mention by Drs. Everett R. Seale and J. B. Richardson, Houston, "Keratoacanthoma, A Benign Skin Tumor Simulating Squamous Cell Carcinoma."

In the "group" division, the first place was won by Drs. Hugh E. Wilson, John L. Kee, Alvis F. Johnson, and Kath-

Among distinguished personages at the session were **(1)** Dr. William Pinck Ball of Cleburne, General Practitioner of the Year; **(2)** specially invited business men; **(3)** Miss Helen Bullock of the *Dallas Morning News*, winner of the Anson Jones Award; **(4)** Mrs. Sam E. Thompson of Kerrville and the trustees of the Sam Thompson Scholarship Fund; **(5)** Mrs. H. S. Renshaw of Fort Worth, outgoing President of the Woman's Auxiliary, wearing a money corsage for benefit of the American Medical Education Foundation; **(6)** Presidents David B. Allman, Atlantic City, American Medical Association; Denton Kerr, Houston, Texas Medical Association; and W. Kelly West, Oklahoma City, Southern Medical Association.

ryn W. Willis, Dallas, "Surgical Repair of Interatrial Septal Defects"; second place to Drs. Fred R. Guilford, William K. Wright, and W. L. Draper, Houston, "Tympanoplasty: Tympanic Skin Grafting and Reconstruction of the Middle Ear Sound Conduction Mechanism"; and honorable mention to Dr. V. P. Collins, Houston, "How Does Cancer Grow? Part I. Pulmonary Metastases."

"Institutional" exhibit awards went to the following: first place, Scott and White Clinic, Temple, Drs. A. C. Broders, Jr., R. R. White, W. H. Hunt III, and N. C. Hightower, Jr., and J. C. Stinson, "Primary Neoplasms of the Small Bowel"; second place, Scott and White Clinic, Drs. R. C. Little, J. R. Shell, and J. J. Christian, "Clinical Application of Pulmonary Function Tests"; and third place, the University of Texas M. D. Anderson Hospital and Tumor Institute, Houston, Drs. Felix N. Rutledge, Lawrence E. Lundgren, and Joseph A. Lucci, "Why a Routine Vaginal Smear?"

Orientation Program:
Future Sessions and Registration

A total of 199 attended the first orientation program to be held in conjunction with an annual session of the Association. There were 75 transfer members, 121 new members, and 3 visitors attending.

There was much to do: **(1)** register; **(2)** visit technical exhibits as some Baylor University College of Medicine students did; **(3)** view scientific exhibits such as this first place winner; **(4)** listen to General Meeting Luncheon speakers; **(5)** chat in the lobby; **(6)** attend scientific sessions; **(7)** check on Auxiliary activities at the women's information desk.

Registration for this year's session was made up of 1,920 members, 438 visitors, 386 exhibitors, 25 guests, and 657 Auxiliary members. Previously, the largest total registration had been 2,807 in Galveston in 1956. Houston in 1948 had recorded the previous high in members registered: 1,685.

The 1959 session will be held in San Antonio, April 18-21; the 1960 session in Fort Worth, April 9-12. An invitation from Galveston County Medical Society was received for the Association to meet in Galveston in 1961. The decision was referred to the Executive Council.

★ District Societies

Ninth District Medical Society

At the annual session of the Ninth District Medical Society held March 6 in Conroe, 63 doctors and 72 wives were present. Dr. Denton Kerr, Houston, President of Texas Medical Association, was guest speaker and addressed the group on "Some of the Doctor's Responsibilities."

Following the scientific session, during which 10 papers were presented, the constitution and by-laws were revised. The society agreed to hold the 1959 meeting in Huntsville.

The following officers were elected: Dr. Haden E. McKay, Humble, president-elect; Dr. Irving M. Watson, Conroe, vice-president; and Dr. James H. Sammons, Highlands, secretary-treasurer. Dr. Lyman C. Blair, Houston, became president.

★ County Societies

News from County Societies

Harris County Society held its regular business meeting April 9 in Houston. Dr. Louis M. Orr, chairman of the American Medical Association's Committee on Federal Medicine, spoke on "Veterans Administration Care of Non-Service Connected Cases."

Hill County Society recently met in Hillsboro to hear a paper presented by Dr. James H. Hejtmancik of Waco entitled, "Urethritis in the Female."

A 100 per cent attendance at the meeting on March 18 in Pearsall of the *LaSalle-Frio-Dimmit Counties Society* was reported by the secretary. Speakers for the evening were Drs. David A. Todd and Albert M. Richmond of San Antonio, who addressed the group on the newer laboratory procedures of interest to the general practitioner.

At the April 8 meeting of the *McLennan County Society*, Dr. Nicholas J. Bellegie of Waco presented "Disaster Plan for Hillcrest Hospital" and Dr. George W. Berry presented "Civil Defense Against Biological Warfare as It Applies to Man." The farm director of radio station KWTX, Johnny Watkins, presented "Biological Warfare as It Applies to Animals and Plants."

The manager of the Industrial Department of the Fort Worth Chamber of Commerce, Rex Jennings, spoke to the *Tarrant County Society* on "Industrial Development—What's the Prescription?" at the March 4 meeting held in Fort Worth. Frank Norton, Dallas attorney, and chairman of the Texas Committee on Atomic Energy, spoke at the April meeting of the society on "Medicolegal Cooperation in the Nuclear Era."

Tom Green-Eight County Society neard a talk on "Colorifics," following a buffet dinner on April 7 in San Angelo. Lt. Col. Vincent I. Hack of Brooke Army Medical Center, San Antonio, presented the program.

A special issue of the *Travis County Society Journal*, "Medical Disaster Plan," was published in March. The publication gives a detailed discussion on the basic plan formulated for Austin disasters, mass casualty care principles are outlined, and specific disaster plans set up for hospitals are detailed.

★ American Medical Association

San Francisco AMA Meeting

Between 12,000 and 15,000 doctors are expected to attend the one hundred and seventh annual meeting of the American Medical Association which will meet June 23-27 in San Francisco.

Headquarters of the meeting will be at the Sheraton Palace Hotel, also the headquarters for the Texas Medical Association hospitality suite. The Woman's Auxiliary will meet at the Fairmont Hotel.

Registration and commercial exhibits will be at the Civic Auditorium Plaza Exhibit Hall. The scientific exhibits, the section meetings, and the motion picture program will be at the Civic Auditorium Main Auditorium. More than 50 Texas doctors are participating in the presentation of the scientific exhibits.

Formal scientific sections will run from Tuesday afternoon through Friday morning. Texas doctors who will participate in the scientific program includes Drs. Leslie M. Smith and John J. Brennan, both of El Paso; E. Stanley Crawford, Denton A. Cooley, Ellard M. Yow, Edwin M. Ory, Robert D. Leachman, James K. Alexander, Frederick R. Guilford, John P. McGovern, Abel J. Leader, and Dan M. Queen, all of Houston; Herbert B. Gerstner, San Antonio; J. E. Miller, Gerald Swindell, and Jay P. Sanford, all of Dallas; John Y. Harper, Jr. and E. Burke Evans, both of Galveston; and Arno W. Sommer, Temple.

Texas members of the House of Delegates are Drs. Joseph B. Copeland, San Antonio; John K. Glen, Houston; Louis C. Heare, Port Arthur; Milford O. Rouse, Dallas; Troy A. Shafer, Harlingen; Truman C. Terrell, Fort Worth; and James H. Wooten, Jr., Columbus.

Climaxing the exhibits, lectures, panel discussions, televised surgical procedures, and other activities will be the inaugural ceremony, reception, and ball for the incoming president, which will be held June 24.

The American Medical Golfing Association will hold its annual golf tournament at the Olympic Lakeside Golf and Country Club in conjunction with the meeting. A luncheon and banquet has been planned for the golfers. Dr. James J. Leary, 450 Sutter Street, San Francisco, is handling arrangement for the tournament.

The Exhibit of Art Works by American Physicians also will be held in connection with the meeting. Further information on this exhibit may be obtained by writing Dr. R. H. Gwartney, 1098 D Street, San Bernardino, Calif.

Hotel reservations may be obtained by writing the AMA Housing Bureau, Room 300, 61 Grove Street, San Francisco 2. Other convention information may be obtained by writing the American Medical Association, 535 North Dearborn, Chicago 10.

AMA Sponsors New Exhibits

A number of new exhibits sponsored by the American Medical Association's Bureau of Exhibits will be ready for showing by local medical societies at fairs, home shows, schools, and other public gatherings by early summer. They are entitled "You Can Reduce," "Food and Nutrition Quackery," "Breathing," "Glands," "Poisoning of Children," and "Health Appraisal of the School Child."

Newspaper of the AMA

The first issue of the American Medical Association's 16-page tabloid newspaper called *The A. M. A. News* will be published at the AMA convention in San Francisco, June 23-27.

The newspaper, which will be distributed to approximately 200,000 physicians every 2 weeks, will report on projects and activities of the association as well as other nonscientific news of special interest to the medical profession. Much of the news will come from state and county medical societies.

WOMAN'S AUXILIARY

Mrs. John D. Gleckler Succeeds to Presidency

Mrs. John David Gleckler, forty-first president of the Woman's Auxiliary to the Texas Medical Association, was born in Denison, the daughter of Richard and Birdie Mae Lewin. She was christened Gladys Lloyd. She is a direct descendant of David Lloyd George, prime minister of England, 1916-1922.

Her public school education began in the old Washington school and was completed at Denison High School, where she was graduated as salutatorian. As she was only 16 years old upon her graduation, her parents decided to send her to Austin College in Sherman by way of the daily interurban. There she received her bachelor of arts degree. While at Austin College, she was a member of Kappa Gamma Chi social sorority and Alpha Chi honorary scholarship society. She also was president of the Woman's Council, the governing body of the women at the college.

After graduation, Gladys entered Columbia University, New York. At the same time, she enrolled in the Juilliard School of Music. After a year enjoying the theater, the opera, and the other wonders of New York, the drama courses, drama clubs, and novel writing courses of Columbia, she turned to concentrated study for a master of arts degree in English literature, which was conferred in June, 1930.

The following autumn Miss Lewin became third assistant professor of English at Austin College. She previously had taught in New York in the Benjamin School for Girls.

After 3 years of teaching, on March 10, 1934, she married John David Gleckler, a young physician of San Antonio. They spent 8 years in San Antonio, where both of their daughters—Judith Lewin and Gladys Lloyd—were born. There she started on her career of medical auxiliary responsibilities. From telephone committee chairman to vice-president and program chairman, she made her way—also joining the Woman's Club and several Round Tables there. For several years she taught a Sunday school class of young men and women in the Laurel Heights Methodist Church.

In August following the bombing of Pearl Harbor, Major Gleckler reported for duty at Randolph Field. By February

MRS. JOHN D. GLECKLER

the Glecklers were leaving San Antonio for Illinois and a new assignment. In 1945 the war was over for them, and since the family had called Denison home for 4 years of Army wandering, they decided to remain there and start a new practice.

There was much to be done in those postwar years in every community. Mrs. Gleckler began a long slow attempt to establish a Day Nursery in Denison. Eventually, the dream became a reality, and as president of a loyal board of directors, Mrs. Gleckler guided the insecure footing of the day nursery from its small beginning to the splendid organization it finally became. Today, the Denison Day Nursery cares for nearly 100 children of working parents, housed in a building valued at more than $30,000. Through her efforts and those of Dr. Gleckler, the Community Concert was first introduced into Denison.

Today, she is secretary of the Monodrama Club, a member of the Service League, and past president of the Woman's Society of Christian Service. She teaches a Sunday school class at the Waples Memorial Methodist Church.

In Auxiliary work, she has served in all levels of county, district, and state organization. She is a past president of the Grayson County Medical Auxiliary and has served as corresponding secretary of the Woman's Auxiliary to the Southern Medical Association. In the state auxiliary she has held the offices of treasurer, first vice-president, and president-elect. She also has been chairman of the School of Instruction.

Mrs. Gleckler's family, besides Dr. Gleckler, consists of her mother (now retired but for a number of years librarian at Austin College) and her two daughters, both married to

officers in the United States Air Force. Judith lives in Alaska and Lloyd is in Germany.

With a religious, civic, and cultural background, coupled with a wide knowledge of Auxiliary affairs, Gladys Gleckler will give a dedicated year of service to the Auxiliary.

—Mrs. Oscar W. Robinson, Paris.

Auxiliary Features Dollar Bills, Rubies

In keeping with Texas tradition, dollar bills and rubies were in use to help celebrate the fortieth anniversary of the Woman's Auxiliary to the Texas Medical Association at the annual convention, held in Houston at the Rice Hotel, April 19-22.

Dollar bills were made up in corsages which were presented to the officials and guests with the instructions that they were to be worn throughout the meeting and then donated to the American Medical Education Foundation. The ruby, symbol of the fortieth year, was used in the decorative theme of the meeting.

To conform with the annual session program of the Texas Medical Association, the Auxiliary meetings were confined to 3 days.

On April 19, the Past Presidents welcomed guests, Mrs. Paul C. Craig, Wyomissing, Pa., President of the Woman's Auxiliary to the American Medical Association; Mrs. Walker L. Curtis, College Park, Ga., President of the Woman's Auxiliary to the Southern Medical Association; and Mrs. Fred C. Endres, President-Elect of the Woman's Auxiliary to the Illinois Medical Association, by entertaining them at dinner at the Houston Club and at the opera, "Elektra."

To bring together each councilor and council woman of the 15 districts and to coordinate the organizational work, the members of the Texas Medical Association's Board of Councilors and the Auxiliary Council Women met for breakfast, Sunday, April 20. Mrs. John H. Wootters, Houston, Auxiliary First Vice-President, introduced the members and distributed membership data. She pointed out the relationship between strong district organizations and active membership and participation by the respective auxiliary. Obstacles to organization were discussed and proposals made to overcome them by joint action of the councilors and council women.

Mrs. H. S. Renshaw, Fort Worth, President, presided at the Auxiliary's Executive Board and general business meetings. One hundred twenty-one attended the luncheon meeting of the Executive Board, April 20, and approval was given the following recommendations:

1. That $250 from 1957-1958 receipts of the Library Fund be allocated to the Memorial Library of the Texas Medical Association for the purchase of new films and replacement of old films.

2. That the balance in all library funds, including the savings account established in Borger, be turned over to the Memorial Library of the Texas Medical Association to be invested by the Board of Trustees for the Memorial Library.

3. That at the end of each year the Library Fund Committee ascertain the immediate needs of the Memorial Library and make such recommendations that would take care of the necessary needs for the incoming year. The balance, if there is any, would be turned over to the Memorial Library of the Texas Medical Association to be invested by the Board of Trustees for the Memorial Library.

4. That $100 be given to the Auxilary Memorial Fund in memory of the late Dr. Joseph H. McCracken, Jr., Dallas, husband of the Auxiliary President, 1955-1956.

5. That the expense of the Auxiliary exhibit at the Texas Medical Association headquarters at the Shamrock Hilton Hotel be approved. The amount would not exceed $175 and this had been approved previously by the Finance Committee.

6. That the emblem on the Past State President's pin be changed to conform with emblem of the Texas Medical Association and the new die to cost $65.

7. That $500 be set aside for use in Science Fair Aid toward the expense of students at the National Science Fair.

8. That approval be given the expenditure of $165.51, one-half of the cost of the silver service to be presented to the Texas Medical Association during the current annual session for use in the headquarters building. This amount had been approved by the Finance Committee.

9. That $1,000 be contributed to the American Medical Education Foundation.

10. That contributions from the county auxiliaries to the Student Loan Fund be received by the chairman by February 15 so that such contributions may be included in the statement of the trust account by the Texas National Bank of Houston, this being the last statement before annual meeting.

Speaking at the first business meeting, Mrs. Curtis commented on the Auxiliary's fortieth birthday and pointed out that the best 10 years of a woman's life are those between 40 and 41. She outlined the types of organization member, familiar to all, the tired, re-tired, tiresome, and tireless. Members were invited to the annual meeting of the Southern Medical Association and its Auxiliary in New Orleans in November.

At the luncheon honoring county auxiliary presidents, Mrs. Craig said that the following three areas of interest would receive program emphasis by the AMA Auxiliary in the coming year: (1) the emotional and physical needs of the preschool child at home, as the basis for a happy childhood; (2) the requirements of our elder citizens, both personal and from the community standpoint; (3) the importance of good nutrition as the foundation for personal good health for all ages.

In addition to the ribbon awards presented by the Historical Committee to the winning auxiliaries, a gift was presented each county auxiliary president from the Harris County Auxiliary. Special ruby awards, framed in American Medical Education Foundation dimes, were presented Mrs. H. S. Renshaw, Miss Hazel Casler, Mrs. Ramsay H. Moore, and Mrs. C. L. Gary, Jr.

Dr. David B. Allman, Atlantic City, President of the American Medical Association, called upon Auxiliary members to assist in the work of the Joint Council to Improve the Health Care of the Aged. The council's four sponsoring organizations are the American Dental Association, American Hospital Association, American Medical Association, and American Nursing Home Association. The attack on the more knotty problems of health care for the aged is designed to (1) increase opportunities for older people to obtain voluntary health insurance coverage, (2) expand health care facilities tailored to the needs of the aged regardless of economic status, and (3) develop more community health services for the aged.

Dr. Denton Kerr, Houston, President of the Texas Medical Association, suggested methods of implementing the program outlined by Dr. Allman on a local level. He also stressed the importance of joint meetings of the county medical societies and auxiliaries, and particularly the value of having the auxiliary members remain to hear speakers on public relations, legislation, ethics, and subjects of general interest.

Revisions to the By-Laws of the Auxiliary were voted

upon, the outstanding change being the inclusion of associate members. (This will conform to the membership provisions of the AMA Auxiliary). The membership of the Executive Board also was more clearly defined and the Program Committee was clarified. The duties of the Publicity Secretary were restated and the qualification of her residence was eliminated.

The report of the Nominating Committee was given by Mrs. Richard C. Bellamy, Liberty, chairman, and the following officers were elected by acclamation:

President-Elect, Mrs. Haskell D. Hatfield, El Paso; *First Vice-President,* Mrs. William D. Nicholson, Freeport; *Second Vice-President,* Mrs. G. G. Passmore, San Antonio; *Third Vice-President,* Mrs. Ralph Payne, Amarillo; *Fourth Vice-President,* Mrs. G. V. Brindley, Jr., Temple; *Fifth Vice-President,* Mrs. George M. Hilliard, Jacksonville; *Treasurer,* Mrs. Andrew J. Magliolo, Dickinson; *Recording Secretary,* Mrs. Thomas J. Vanzant, Houston; *Corresponding Secretary,* Mrs. Rene G. Gerard, Denison; *Publicity Secretary,* Mrs. James M. Coleman, Austin; *Parliamentarian,* Mrs. Truman C. Terrell, Fort Worth.

The new officers, including Mrs. John D. Gleckler, Denison, as President, were installed at the style show luncheon Tuesday, April 22, by Mrs. William B. Hibbitts of Texarkana. The Past President's Pin was presented Mrs. Renshaw by Mrs. E. W. Coyle of San Antonio, prior to the adjournment of the convention.

The post-convention Executive Board meeting was held immediately following the convention adjournment. Mrs. John D. Gleckler, Denison, President, presided and called upon the new committee chairmen, following the introduction of the officers.

Committee chairmen are Advisory, Mrs. Joseph H. McCracken, Jr., Dallas; Civil Defense, Mrs. Vincent Cirone, Gainesville; Convention, Mrs. Thomas H. Diseker, San Antonio; Courtesy Resolutions, Mrs. V. M. Longmire, Temple; Finance, Mrs. Oscar M. Marchman, Jr., Dallas; Historical, Mrs. T. J. Archer, Jr., Austin; Legislation, Mrs. G. G. Zedler, Austin; Memorial Services, Mrs. Carlos Hamilton, Houston; Mental Health, Mrs. Richard L. Hudson, Corpus Christi; Nominating, Mrs. H. S. Renshaw, Fort Worth; Organization and Membership, Mrs. William D. Nicholson, Freeport; American Medical Education Foundation, Mrs. C. L. Gary, Jr., Corsicana; Library Fund, Mrs. Sidney W. Bohls, Austin; Memorial Fund, Mrs. Ramsay H. Moore, Dallas; Student Loan Fund, Mrs. Robert K. Blair, Houston.

Others include Program, Mrs. F. Paul Burow, Killeen; *Bulletin,* Mrs. R. C. L. Robertson, Houston; *News Letter,* Mrs. Hal Norgaard, Denton; *Texas State Journal of Medicine,* Mrs. James M. Coleman, Austin; *Today's Health,* Mrs. B. C. Wallace, Waxahachie; Public Relations, Mrs. Travis Smith, Abilene; Recruitment, Mrs. Paul Klinger, San Antonio; Reference, Mrs. E. W. Coyle, San Antonio; Research and Romance of Medicine, Mrs. O. W. Robinson, Paris; Revisions, Mrs. Frank Steed, San Antonio; School of Instruction, Mrs. Harold Lindley, Pecos; Doctors' Day, Mrs. T. H. Thomason, Fort Worth; Safety, Mrs. Howard Dudgeon, Jr., Waco; and Science Fair, Mrs. Charles H. Cornwell, Marlin.

Members of the Nominating Committee were elected by the Executive Board.

The budget was approved, in addition to the balance due on the silver service presented to the Texas Medical Association.

Mrs. D. J. Sibley, Fort Stockton, presented the sketch she had submitted for the design of the Christmas card to be sold by the Auxiliary for the American Medical Education Foundation, and the Executive Board voted to proceed with the project.

Mrs. Gleckler announced the School of Instruction and Executive Board meeting would be in Austin, September 4 and 5, preceding the Texas Medical Association's Conference on Public Relation, September 6. She expressed the hope that members would arrange to remain for the 3 day session.

AMA Auxiliary Convention

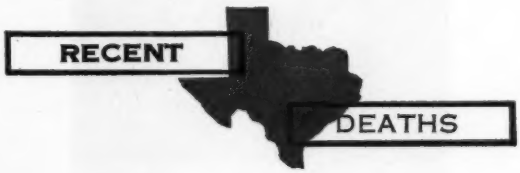
More than 50 Texas members anticipate attending the thirty-fifth annual meeting of the Woman's Auxiliary to the American Medical Association to be held in San Francisco, June 23-27. The headquarters will be at the Fairmont Hotel.

Luncheons, a style show, the annual tea, and a tour of San Francisco homes will be featured entertainment.

At the round-table discussions on all facets of Auxiliary activities and programs, Monday, June 23, Mrs. John D. Gleckler, Denison, President of the Woman's Auxiliary to the Texas Medical Association, will describe in detail the joint meeting of the Board of Councilors and Council Women at the Texas convention. Mrs. Paul C. Craig, Wyomissing, Pa., President of the Woman's Auxiliary to the American Medical Association, requested that the procedure be explained in San Francisco after she attended the recent annual meeting in Houston. An innovation, the meeting was designed to form the groundwork for closer cooperation between the corresponding district officials to produce a larger, more active membership.

Mrs. Haskell D. Hatfield, El Paso, President-Elect of the Texas Auxiliary, will be Dean of the Texas Delegates.

For hotel reservations, those wishing to attend the meeting should write to the Housing Bureau of the San Francisco Convention and Visitors Bureau, 300 Civic Auditorium, San Francisco 2.



DR. MARION E. CURTIS

Dr. Marion Edward Curtis, Huntsville, died January 17, 1958, of coronary thrombosis.

The son of Jesse and Frances (Sterne) Curtis, he was born October 22, 1872, in Walker County, near Huntsville. His early education was received in Sam Houston Normal Institute, and he was graduated from the University of Texas Medical Branch at Galveston in 1904. He did postgraduate work at Tulane University, New Orleans, and Washington University, St. Louis. He practiced at New Waverly from 1905 to 1915 and at Huntsville from 1915 to 1951.

Dr. Curtis was a member and former president of the Walker-Madison-Trinity Counties Medical Society and a member of the Texas Medical Association. He was an elder of the Presbyterian Church and a member of the Chamber of Commerce. He worked with the Boy Scouts and was a Mason and a Shriner. Dr. Curtis was also a past president of the New Waverly State Bank.

He is survived by his wife, the former Miss Elmore Hill, whom he married in New Waverly January 17, 1906; a son, Dr. James E. Curtis of Cleburne; and a daughter, Mrs. France C. Kellogg of Houston.

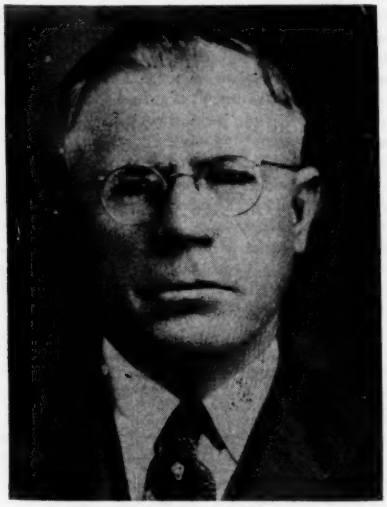
CORRECTION: DR. RAYMOND L. BRADLEY, SR.

In the obituary of Dr. Raymond L. Bradley, Sr. appearing in the April issue of the *Journal*, page 276, his wife was listed as a survivor. Mrs. Bradley died 2 years ago.

DR. HENRY E. CHANDLER

Dr. Henry E. Chandler, Mt. Vernon physician for 43 years, died February 15, 1958, of acute coronary occlusion and arteriosclerosis.

Dr. Chandler was born November 13, 1875, at Stephenville, Ala., the son of J. T. and Melissa (Smith) Chandler. He attended Fannin County public schools, Indianapolis Medical College, and the Dallas Physio-Medical School. He practiced at Westminster, South Sulpher, and Pickton before coming to Mt. Vernon in 1912. He retired from medical practice in 1955 because of ill health.



DR. HENRY E. CHANDLER

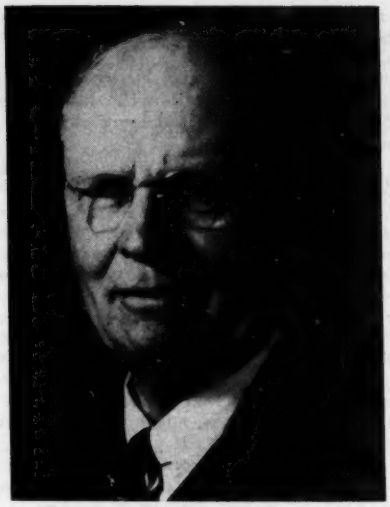
A past president and secretary of the Hopkins-Franklin Counties Medical Society, Dr. Chandler was a member at the time of his death of the Camp-Morris-Titus Counties Medical Society, a member of the American Medical Association, and an honorary member of the Texas Medical Association. He also belonged to the Rotary Club and the Baptist Church.

After the death of his first wife, the former Miss Mamie E. Parrish, Dr. Chandler married Miss Ellin Colley. She survives as do one daughter, Mrs. Joe L. Vaughan, Dallas; three sons, C. L. Chandler, Huntsville; Willard Chandler, Irving; Truett Chandler, Nederland; three brothers; and two sisters.

DR. CHARLES H. HARRIS

Dr. Charles Houston Harris, Fort Worth, died January 20, 1958, of uremia and cancer of the prostate.

Dr. Harris, who was born July 11, 1869, in Johnson County, was the son of William Hagood and Elizabeth



DR. CHARLES H. HARRIS

(Jack) Harris. He received his preliminary education in Alvarado and was graduated from the St. Louis College of Physicians and Surgeons in 1899. He served his internship at Guy's Hospital in London and studied in Vienna and then practiced at Moran until 1904, when he went to Fort Worth. He was the founder of Harris Memorial Methodist Hospital in Fort Worth and the Harris College of Nursing of Texas Christian University in Fort Worth.

He was past president of the Tarrant County Medical Society and the Thirteenth District Medical Society; past vice-president and honorary member of the Texas Medical Association; and member of the American Medical Association, Southern Medical Association, and the Hall of Fame of the National Association of Methodist Hospitals and Homes. He had been secretary of the Section on Surgery of the Texas Medical Association in 1913 and chairman in 1931. He held honorary membership in the Texas Hereford Association and honorary doctor of science degrees from Texas Wesleyan College, Fort Worth, and Southwestern University, Georgetown. He also received an honorary doctor of laws degree from TCU. He was a member of the board of trustees of Texas Wesleyan College and of the Mary Couts Burnett Trust, being chairman of the latter group.

Dr. Harris was married to Miss Fannie Gardner on December 25, 1887, in Johnson County. She died March 7, 1927. He is survived by a foster daughter, Miss Maybelle Hudgins, Fort Worth; four grandchildren, Dr. Charles H. Harris II and Mrs. Harry Flower, both of Fort Worth; Mrs. K. E. Yeary, Olympia, Wash.; and Mrs. Frances Plummer, Long Beach, Calif.; and three sisters, Mrs. Lillie Miller, Fort Worth; Mrs. Ella Phillips, Alvarado; and Mrs. Julia Mayes, Dallas.

DR. CLAUDE H. MASON

Dr. Claude Hutchinson Mason, El Paso, died January 13, 1958, of metastatic carcinoma of the lung.

He was born October 8, 1885, in Wadestown, W. Va., and attended Staunton Military Academy in Virginia. He did undergraduate work in the University of West Virginia

and was graduated from the University of Maryland Medical School in 1912. He served his internship at the University Hospital in Philadelphia. He did postgraduate work in radiology at Cook County Hospital in Chicago in 1920. With the exception of time served in the United States Army, Dr. Mason practiced in El Paso from 1914 until his retirement in 1956. He joined the United States Army in 1916 when Pancho Villa raided Columbus, N. Mex., and served on the border with an infantry division for 1 year. In 1917 he went overseas and returned in 1919 as a captain in the Medical Corps. During his Army service, he was honored with the distinguished service cross, the legion of honor, the croix de guerre, the croix de guerre with palm, and the croix de guerre with star.

DR. CLAUDE H. MASON

Dr. Mason served for many years as radiologist at the El Paso General Hospital, the Masonic Hospital, the old Providence Hospital, and Hotel Dieu Hospital. He was consultant radiologist for the La Tuna Prison Hospital and for the hospitals of the copper mines in Mexico, New Mexico, and Arizona. He was a member of the City-County Health Board and served on the Physicians Procurement and Assignment Committee during World War II.

He was a member of the El Paso County Medical Society, the Texas Medical Association (an honorary member since last year), and the American Medical Association; a fellow of the American College of Radiology; and a diplomate of the American Board of Radiology.

Dr. Mason married the former Miss Adele Young of Hillsboro in 1917. She survives as do a daughter, Mrs. Mary Adele Burroughs, a son, Ben Young Mason, both of El Paso, and a sister, Mrs. Carroll Helnick, Fairmont, W. Va.

DR. H. L. STEWART

Dr. Homer Lockett Stewart, Navasota, died January 29, 1958, of coronary thrombosis with infarction.

Dr. Stewart, who was born August 19, 1897, in Longview, was the son of Charles A. and Alta Lee (Angel) Stewart. His early education was received at the Odd Fellows Home at Corsicana, Lon Morris Junior College at Jacksonville, and Austin College at Sherman. He was graduated from the University of Texas Medical Branch at Galveston in 1924. He served his internship at Jefferson Davis Hospital at Houston and was in residency at Missouri Pacific Hospital at Palestine. He did postgraduate eye, ear, nose, and throat work at Tulane University, New Orleans, at the New York Eye and Ear Infirmary, and in Vienna, Austria. He was on the staff of the Hurst Eye, Ear, Nose, and Throat Hospital at Longview for 5 years before coming in 1929 to Navasota where he practiced until his death.

He was secretary from 1933 until his death of the Grimes County Medical Society; a member of the Texas Medical Association, American Medical Association, Southern Medical Association, and Pan American Association of Ophthalmology; and a fellow of the American College of Surgeons. He was chairman for 20 years of the board of stewards of the First Methodist Church in Navasota, chairman for 10 years of the board of trustees for the International Organization of Odd Fellow Homes in Corsicana and Ennis, and a member of the Navasota School Board. He was also a thirty-second degree Mason, an Odd Fellow, and a member of the Kiwanis Club. He had been a member of the city

DR. H. L. STEWART

commission and mayor pro tem. He served as a second lieutenant in the United States Army in 1918.

Dr. Stewart is survived by his wife, the former Miss Bessie Ruth Clinkscales, whom he married on September 22, 1929; two children, Mrs. James D. O'Keefe, Dallas, and Lt. Homer L. Stewart, Jr., Waco; one grandchild, Sharon Ilene Stewart; and one sister, Mrs. J. Evetts Haley, Canyon.

DR. YOUNG J. MULKEY, SR.

Dr. Young Jay Mulkey, Sr., who practiced at Fort Worth for 42 years, died January 27, 1958, of a heart attack.

Dr. Mulkey was born April 12, 1887, in Fort Worth, the son of George H. and Francese (Anderson) Mulkey. He attended Polytechnic College, Fort Worth, and was graduated from the Medical Department, Fort Worth University in 1909 and the Medico-Chirurgical College of Philadelphia in 1912. He interned at St. Joseph's Hospital in

Fort Worth and the Medico-Chirurgical College Hospital in Philadelphia. He was in residency at the Philadelphia Lying-In Charity Hospital, the Philadelphia Hospital for Contagious Diseases, and the Mary J. Drexel Home and Children's Hospital in Philadelphia. Dr. Mulkey did postgraduate work at the University of Pennsylvania. He practiced at Fort Worth from 1916 until the time of his death. During World War I he was a first lieutenant and a captain in the United States Army Medical Corps, stationed first in France and then in Germany.

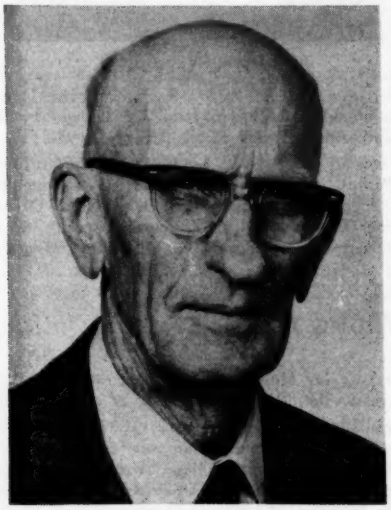
Dr. Mulkey was a member of the Tarrant County Medical Society, Texas Medical Association, American Medical Association, Texas Academy of General Practice, Tarrant County Academy of General Practice, American Academy of General Practice, Association of American Physicians and Surgeons, and Southern Medical Association. He was also a member of Psi Chi medical fraternity and the Masonic Order.

Survivors include his wife, the former Miss Eleanor Walsh, whom he married in Philadelphia April 24, 1916; a son, Young Jay Mulkey, Jr. and a grandson, Young Jay Mulkey III, both of Fort Worth; a brother, George Mulkey of Midland; and two sisters, Mrs. J. L. Stuckert, Sr. of Fort Worth and Miss Madge Mulkey of Los Angeles.

DR. E. V. HEADLEE

Dr. Emory Vincent Headlee, Teague, died January 4, 1958, of a heart attack.

The son of Dr. and Mrs. Emmet Headlee, he was born August 29, 1875, at Brewer Prairie (later Teague). His preliminary education was in the Brewer Public Schools. He attended old Southwestern Medical College in Fort Worth, Memphis Medical College in Tennessee, and practiced at Teague from 1900, with the exception of 1 year of practice at Newburg, until his death. He did postgraduate work at Tulane University in New Orleans in 1909. He was secretary for 4 years and president for 10 years of the Freestone County Medical Society, past worshipful master and secretary for 40 years of his Masonic Lodge, member of the Shrine at Waco, and a member of the Methodist Church.



DR. E. V. HEADLEE

He married Miss Alice Sims at Brewer in April, 1899. She died November 21, 1952. Dr. Headlee is survived by one son, Dr. Emmet V. Headlee, Odessa; two brothers, E. J. Headlee, Denton, and H. H. Headlee, Teague; and two sisters, Miss Alta Headlee and Miss Clara Headlee, both of Teague.

DR. MURRAY WOOD

Dr. Murray Wood, a one time mayor and general practitioner at Andrews, died January 23, 1958, of a heart attack.

Dr. Wood, the son of Zeb and Ada B. Wood, was born February 28, 1912, at Ira. He studied at Colorado City Public Schools and received his premedical training at Texas Technological College, Lubbock. He was graduated from the University of Texas Medical Branch at Galveston in 1939 and interned in St. Joseph's Hospital at Fort Worth. From 1940 to 1945, he practiced at Andrews, where he was the only doctor for a number of years. While in Andrews, he was county health officer, medical examiner of the Selective Service, and was instrumental in the building of Permian General Hospital. He was also city mayor and was in office during the time many first water and sewer improvements were made in Andrews. He practiced in San Angelo from 1946 to 1948 and was on the staff of Shannon

DR. MURRAY WOOD

Memorial Hospital there. Dr. Wood was in Midland for 2 years before going in 1952 to Junction, where he was instrumental in the preliminary promotion for the building of a county hospital. In 1955 he returned to Andrews and remained there until his death.

A member of the American Medical Association, Dr. Wood was also a member of the Texas Medical Association and the Andrews-Ector-Midland Counties Medical Society. He had been a member of the Tom Green-Eight Counties Medical Society when he lived in San Angelo.

Members of the family who survive include his wife, the former Miss Isla Marie Justice, whom he married September 23, 1937; three children, Margaret Ann, Thorpe, and John Flint, all of Andrews; his mother, Mrs. Ada B. Wood of Baird; and a brother, Sam A. Wood of Denver.